Cancer Burden Among Hispanics in Nebraska

(1991-2000)

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DEFINITION OF TERMS

Age-Adjusted Rate: A weighted average of a crude death rate according to a standard distribution. Age adjusting is a process by which the age composition of a population is held constant so that changes or differences in age composition can be eliminated from the analysis. This is necessary because older populations have higher death rates merely because death rates increase with age. Age adjusting allows the researcher to make meaningful comparisons over time and among groups in the risk of mortality. The Nebraska death rates in this report have been adjusted according to the age distribution of the United States population in 2000. [1] However, when comparing Nebraska and national cancer incidence and mortality rates, both the 1970 and 1940 standards were used.

Body Mass Index (BMI): A measure of weight relative to height. A BMI of less than 25 is considered ideal or healthy; a BMI of 25-29 is considered overweight; and a BMI of 30 or greater is considered to be indicative of obesity. BMI is calculated by dividing an individual's weight in kilograms by the individual's height in meter squared.[2]

BRFSS: The Nebraska Behavioral Risk Factor Surveillance Survey.

Cancer (All Sites): Cancer "All Sites" were defined as the SEER (see definition below) primary site groups for "buccal cavity and pharynx; digestive system; respiratory system; bones and joints; breast; female and male genital system; urinary system, eye; brain and other nervous system; endocrine; lymphomas; multiple myeloma, leukemias, and other ill-defined, and unknown" cancer sites.[3] Cancer in North America 1994-1998, Volume One: Incidence --- Appendix A SEER Site Groups for Primary Site based on ICD-0-2). All cancer disease primary diagnosis included in this report were based on the codes identified as ICD-9 Codes 140-208. Note that ICD-9 was used to code death certificates for the years 1979 through 1998. After this period, the ICD-10 came into use.

CDC: Centers for Disease Control and Prevention, based in Atlanta, GA.

DataScan: Used by the MEDSTAT Group (see definition below) and the Nebraska Medicaid program to analyze the Medicaid and Medicaid Managed Care data used in this report.[4]

Death Rate: A death rate is a ratio between mortality and population - the number of deaths per specific number of people. This is the most widely used measurement to determine the overall health of a community. Death rates are usually computed per 100,000 population.[5] Rates allow meaningful comparisons between groups of unequal size.

ER: Emergency Room or department in this report - used to describe emergency medical visits.

Hispanic: The term "Hispanic," is used to aggregate several distinct populations of the Hispanic origin. Both of the terms, "Latino" and "Hispanic" are now used interchangeably by the U.S. Government beginning with or since the 2000 Census. The term "Latino" generally refers to both men and women when there is no "distinction made to highlight "Latinas."[6]

Hypertension/High Blood Pressure: A systolic reading of 140mm Hg or higher over a diastolic reading of 90mm Hg and higher is an indication of hypertension or high blood pressure. [1]

ICD-O-2: International Classification of Cancer case used by the Cancer Registry.

ICD-9: International Classification of Diseases (Codes 140-208), 9th Revision, 1978.

ICD-9-CM is an International Classification of Disease, Clinical Modification, 9th Revision, 1998.

ICD-10: International Classification of Diseases (Codes C00 – C97), 10th Revision, 1999.

Incidence: Incidence is an estimate of the number of new cases of disease that develop in a population in a specified time period, usually one year. Incidence is often used as an indicator of the need for preventive measures, or to evaluate the effectiveness of existing programs.[7] Cancer mortality and incidence rates represent the number of cancer deaths per 100,000 population (mortality) or the number of new cases of cancer per 100,000 population (incidence).[2]

IP: Inpatient is defined as someone who has been admitted to a medical institution on recommendation of a physician or dentist, and who:

- Receives room, board and professional services in the institution for a 24 hour period or longer, or
- Is expected by the physician or hospital to receive room, board, and professional services for a 24-hour period or longer even if later, that patient dies, is discharged or transferred to another facility and does not actually stay in the institution for 24-hours (42 CFR 440.2).

Latinas: refers to women of Latino descent. [6]

Latinos: used to aggregate several distinct populations of the Hispanic origin. When there is no "distinction made to highlight "Latinas," then the term "Latino" will generally refer to both men and women." "Latino" and "Hispanic" are now used interchangeably by the U.S. Government with or since the 2000 Census.[6]

Medicaid: A state and federal program which funds and provides specific and approved health care and related services for individuals meeting certain income eligibility conditions.

MEDSTAT Group: An independent health information organization that the Nebraska Medicaid Program contracts with to analyze Medicaid data.[4]

Morbidity: A term used to describe disease, sickness or illness, as a departure from normal physiological and psychological conditions. It is normally expressed as a morbidity rate. Morbidity rates give the closest frame of the quality of life and health status in a given population.[7]

Mortality: A term used to describe death. It is normally expressed as a rate, expressing the proportion of a particular population who die of one or more diseases or of all causes during a specified unit of time, usually a year. It is also the probability of dying within a specified time period. This rate is also called the "crude death rate."[7]

NHA: The Nebraska Hospital Association which maintains all ER and IP information supplied by Nebraska acute care hospitals. The information is reported by hospitals using the Uniform Billing Form (UB-92) and is transmitted electronically to the Nebraska Hospital Information System at NHA.[4]

Prevalence: Prevalence is an estimate of how many people have a specific condition or disease at a given point in time. This number is useful in assessing the level of medical and social care needed for current cases.[7]

Relative Risk: Relative risks of disease or death were calculated using the following formula:

$$\text{Relative Risk} = \frac{\text{Mortality (or Incidence) Rate of Minority Population}}{\text{Mortality (or Incidence) Rate of White Population}}$$

A value of 1.0 indicates that the racial/ethnic minority population has a risk of acquiring or dying from certain specific disease equal to that of the white population. A relative risk of less than 1.0 means that the minority population is less likely than the white population to die of, or develop a certain type of disease. If the relative risk is greater than 1.0, the minority population suffers proportionally more illness or deaths from this condition than the white population.

SEER: Stands for *Surveillance, Epidemiology, and End Results* (SEER) Program, developed and described by the National Cancer Institute as an "authoritative source of information on cancer incidence and survival in the United States."

Surveillance: The ongoing scrutiny of a condition or characteristic, generally using methods distinguished by their practicability, uniformity, and frequently their rapidity, rather than by complete accuracy. Its main purpose is to detect changes in trends or distribution to initiate investigative or control measures.[4]

YPLL: Years of Potential Life Lost (to a disease, condition or cause). This is an indicator of premature death. It is calculated using 75 years of potential life as the basis. For instance, infants who die at 6 months have lost 74.5 years of potential life. An adult who dies at the age of 50 years has lost 25 years of life.[2]

EXECUTIVE SUMMARY

Hispanic Americans are generally as healthy as other racial and ethnic groups in the nation. In general, Hispanics have a lower prevalence of cancer both in Nebraska and in the nation. However, a study in the National Cancer Data Base indicated that "differences in primary cancer sites are noted when comparing Latino subgroups,[6] and are shown under the sub section: "Cancer Disparities among Hispanics in the U.S." Among Nebraska Hispanic adults, cancer is the second leading cause of death, next to heart disease (Figure 2). During the 10-year period of this study, 250 Nebraska Hispanic residents died from cancer or cancer-related causes.

- A comparison of the two five-year periods, 1990-1994 and 1995-1999, revealed that cancer incidence cases among Hispanics increased from 52 cases in 1990-1994 to 326 cases during 1995-1999, from a rate of 41.4 to 158.3 per 100,000 population. This change in the incidence count may be the result of a better tracking or recording system in the second period 1995-1999, as opposed to a true increase in incidence (Table 1).

- During 1995-1999, Hispanic males experienced 28 cases of lung and bronchus cancer at the rate of 32.4 per 100,00 population and 31 cases of prostate cancer at the rate of 40.5 per 100,000 population. Hispanic females recorded 37 cases of breast cancer at the rate of 36.6 per 100,000 population (Table 2).

- Hispanics in Nebraska recorded lower cancer incidence rates than both Nebraska and the nation during 1989-1993 and 1994-1998 (Table 3).

- During the ten-year period of this study 1991-2000, Nebraska death certificate data indicates that there were 16,614 cancer deaths, with 250 of them among Hispanics.

- The cancer age-adjusted mortality rates among Hispanics were lower than that for Nebraska and the nation. However, in 1991-1995, Lancaster County Hispanic male (92.0) and female (81.4) categories experienced higher mortality rate than Douglas County and state counterparts (Table 4). Overall, Hispanics in Nebraska seems to have stabilized their cancer mortality rate at 56.5/100,000 population while experiencing a lower relative risk. (Tables 5, 6 and Figure 5).

- Lung, prostate, and female breast cancer continue to be the three leading cancer death categories among Nebraska and Hispanic males and females (Table 8).

- In the period 1996-2000, Nebraska residents lost to cancer a total of 118,474 years of potential life lost (YPLL), while Hispanics lost to cancer, a total of 2,530 YPLL (Table 10). During 1996-2000, Douglas County and Lancaster County Hispanics lost to cancer 753 and 234 years of potential life (YPLL) respectively.

- The combined result of the Nebraska Behavioral Risk Factor Surveillance Survey of 1994-1998 indicates that 53 percent of Hispanic women at 40 years and older had a mammogram.

- Also 83 percent of Hispanic women 18 years and older have had Pap test in the last two years (Figures 11 and 12).

- The Nebraska 1994-1998 BRFSS revealed that 25 percent of Hispanics 18 years and older were smokers.

- This study found that Hispanics experience significant barriers that limit their access to health care, and are the least likely racial and ethnic minority group to have regular source of care and screenings compared to whites.

- During 2000, 36.7 percent of Nebraska Hispanics self-reported that they had no form of health insurance compared to 9.1 and 8.1 percent for the general state population and whites (Figure 13). The trend revealed that there has been an increase of approximately 28.9 percent of uninsured Hispanic adults since 1997.

- The Nebraska Medicaid records indicate that during 1998-2000, a total of 350 Hispanics with the primary diagnosis of cancer were enrolled in the Medicaid Program and that they recorded a total of 3,775 inpatient/out patient visits (Table 12). A total of 51,119 Hispanics were enrolled in the Nebraska Medicaid program during the period 1998-2000.

INTRODUCTION

Purpose

This report provides relevant data and information to policy makers, health care professionals, service providers and members of the public. This report concentrates on the burden of cancer among Hispanics in Nebraska from 1991-2000, and what is being done to address the problem. This information can be used when setting and evaluating baseline standards, policy initiative programs, and service delivery affecting Hispanic Americans in Nebraska.

Demographics

The National Library of Medicine's *"Current Bibliographies in Medicine"* states: "The Hispanic-American community is the fastest growing minority population in the United States. It is estimated that Hispanics/Latinos will constitute the largest minority group in the United States by the year 2010. This rapid growth has considerable implications for the health status of this medically under served population of Americans. Meeting the health care needs of Hispanics requires an understanding of their social, cultural, economic, and physical environments."[8]

Nationwide, Hispanics numbered approximately 32 million, or almost 12 percent of the total United States population in 1999. Hispanics or Latinos in the United States are made up of Mexicans (65 percent), Central or South Americans (14 percent), Puerto Ricans (10 percent), other Spanish countries (7 percent), and Cubans (4 percent).[9] According to the 2000 U.S. population data released by the U.S. Census Bureau, Hispanics in Nebraska make up the greatest share of the racial and ethnic minority populations, numbering 94,425 or 5.5 percent of Nebraska's total population[10].

The U.S. Census Bureau forecasts continued strong growth in the Hispanic American segment of Nebraska's population. It is estimated that the number of Hispanic Americans in the state will reach approximately 145,000 by 2025.[10, 11]

Life Expectancy

According to information from the Centers for Disease Control and Prevention (CDC), the 1999 national vital statistics report indicated that the life expectancy at birth for all U.S residents was approximately 77 years. The Nebraska life expectancy at birth for whites was 78.1 years, or 75 years for males, and 81 years for females, for the comparable period 1998-2000.[12]

Life expectancy at birth for Hispanics in Nebraska was 83 years (based on a small sample size) in the three-year period 1998-2000. Nebraska Hispanic males had a life expectancy of 81 years while the female life expectancy at birth was 83 years, according to the Nebraska vital statistics.[1]

General Overview of Cancer Statistics for Hispanics and Its Health Impact

According to the American Cancer Society, cancer is a group of diseases characterized by uncontrolled growth and spread of abnormal cells.[12]

Cancer ranks second as the leading cause of death in the nation. The CDC states that "One of every four deaths in the United States is from cancer."[13] Nationwide, among Hispanic adults, cancer is the second leading cause of death, next to heart disease, resulting in 20 percent of all Hispanic deaths in the U.S. (Figure 1).[12] National trends and cancer surveillance show that the age-adjusted incidence rate for cancer increased between 1973 and 1992.[14]

The American Cancer Society states that "since 1991, a decrease has been seen in the incidence and mortality rates of all cancer sites combined in the United States, thereby reversing the trend of increasing rates noted since 1973." [12]

In Nebraska, cancer is the second leading cause of death among adults, while nationwide, Nebraska ranks 43rd highest overall in cancer mortality rates.[13] Table 1 shows incidence counts, rates, and the percentage change in Nebraska for two five-year periods of 1990-1994 and 1995-1999, thus revealing a dramatic increase in incidence count and rates for Hispanics. Table 2 shows the incidence counts and rates for selected sites of cancer by gender. Table 3 indicates that in 1996, the U.S. cancer age-adjusted incidence rate was 395.3 per 100,000 population, which was higher than the Nebraska rate (384.0) for the period 1994-1998.

Table 4 reveals that when Nebraska's mortality rates for selected cancer sites during the period 1991-1995 are compared to those for the period 1996-2000 and against those of Douglas and Lancaster Counties for the same period, Hispanic males and females in Douglas County experienced increased cancer age-adjusted mortality rates by over 40 percent. In comparison, their state counterparts experienced no changes, and Hispanics in Lancaster County experienced a decrease of 22.0 percent in cancer age-adjusted mortality rates.

The ten-year period 1991-2000 portrayed a steady decline in the rate of cancer deaths for all racial and ethnic minorities, except Asian Americans who seem to be recording increasing rates (Table 5). Hispanics in Nebraska seem to have stabilized at a cancer mortality rate at 56.5/100,000 population (Table 5 and Figure 5).

Any one can be diagnosed with cancer. At the national level 1 in every 2 men and 1 in every 3 women have a chance of developing cancer in their lifetime. As both men and women get older this chance of developing cancer significantly increases.[14]

New Cases

The American Cancer Society (ACS) estimated that in 2001, 1,268,000 new cases will be diagnosed in the nation and 7,500 of those will be in Nebraska.[15] Furthermore, ACS estimated that in 1999, 8.2 million Americans had a history of cancer, and that approximately 1.2 million new cancer cases will

be diagnosed, excluding basal and squamous cell skin cancers. The National Center for Health Statistics also reported a total of 2,314,245 new cancer cases (in all forms) in the United States in 1997.[13]

The American Cancer Society estimated that in 2001, 900 new cases of lung cancer will be diagnosed in Nebraska and at the same time, 900 men and women will die from lung cancer in 2001. It also predicted that 1,200 new cases of breast cancer would be diagnosed among Nebraska women while 200 would die from this cause in 2001. Twelve hundred new cases of prostate cancer would be diagnosed while 200 men were expected to die from it in the same year. In 2001, it is estimated that 1,000 men and women in Nebraska were diagnosed with colorectal cancer for the first time, while 400 would die of the disease.[15]

According to information from cancer studies and research by Kaiser Permanente found in the National Cancer Data Base:

> The rate of invasive cancer among Latinas is nearly twice (15.3) that of non-Latino white women (8.4). Factors contributing to increased prevalence among Latinas include low education; long intervals between Pap smears or no Pap screening; non-use of barrier contraceptives, including condoms; lack of access to health care, lack of knowledge about need for screening; and partners with multiple sexual contact. Breast cancer in Latinas (except for Cuban American Women) is significantly lower (30 percent) than in non-Latino white and African American women. However, several studies have shown that non-English proficient Latinas with later stage disease are significantly less likely to have had a mammogram than other women. Some studies suggest that the lower prevalence of breast cancer may be due to high fiber diets and lower levels of smoking.[7]

"Saving Lives in Nebraska, Cancer Facts and Figures 2000-2001" states that men are more likely than women to develop cancer, and are more likely than women to die from cancer. Among Hispanic adults in Nebraska, during 1996-2000, cancer was the second leading cause of death (150), next to heart disease (175) (Figure 2).[8] Lung and bronchus cancer are the leading types of cancer deaths for both Nebraska men (31 percent) and women (21 percent). Colorectal (12 percent) and prostate cancer (12 percent) are the second and third leading sites for men. For women, breast cancer (17 percent) and colorectal cancer (12 percent) are the second and third leading sites and cause of death (Figure 3).[13]

Contributions of Lifestyle and Environmental Factors

Research conducted by the National Cancer Institute in 1986 found that "certain cancers can be treated and cured if detected early. It has been shown that the majority of all cancer-related deaths can be attributed to lifestyle or environment. Dietary factors are responsible for about 35 percent of cancer deaths, and tobacco accounts for 30 percent. Reproductive and sexual behaviors account for 7 percent of all cancer mortality. Occupational (4 percent) and environmental hazards (6 percent) also contribute to all cancer deaths."[14] (Figure 4)

Cancer Surveillance System

On August 5, 1937, Congress established the National Cancer Institute Act (P.L. 244) [17] and in 1971, Congress declared "War on Cancer" by establishing the National Cancer Act. In October 1992, National Program of Cancer Registries (Public Law 102-515, The Cancer Registries Amendment Act) was established[18, 11] to maintain a population-based system of cancer registries in the United States by which information is systematically collected about the incidence and types of cancer, the anatomic location, the extent of disease at the time of diagnosis, the kinds of treatment received by cancer patients, and the outcomes of treatment and clinical management." [19]

CDC established and funds the National Program of Cancer Registries (NPCR) and uses NPCR to implement its Congressional mandate by providing technical assistance and training to states in the establishment and operation of statewide (cancer) registries, and by establishing and monitoring compliance with program standards, for data completeness, timeliness, and quality. [19]

In addition to the cancer registry, CDC also established surveillance system tools such as the National Behavioral Risk Factor Surveillance System (BRFSS) to gather survey data concerning cancer and other health indicators. The CDC encourages states to use these surveillance systems to track cancers and other health related issues.

Nebraska is among the states maintaining a surveillance system on cancer in the form of a Cancer Registry, as well as the BRFSS. In Nebraska, the Cancer Registry is a collection of information regarding cancer incidence in Nebraska and is used for monitoring cancer incidence rates and stage of diagnosis among state residents. Although the state legislature authorized its creation in 1982 funding was not provided until 1986. In 1987, the Registry collected its first data. The Cancer Registry is maintained by the HHSS.[20]

Cancer Disparities among Hispanics in the U.S.

According to the National Cancer Data Base:

- Colorectal cancer is the third most common cancer in Latino men and the second most common cancer in Latinas in the U.S. Latinos are less likely than non-Latino Whites to report having had a screening test for colorectal cancer. A study of insured Latinos substantiated that they are less likely to obtain recommended cancer screening tests.
- Among mainland Puerto Ricans, colorectal cancer rates increase twofold, though remain lower than non-Latino Whites.
- In a recent University of Texas study, researchers found that Mexican Americans had an increased risk (2.29-fold) of lung cancer due to a susceptible genotype not associated with lung cancer in non-Latino Whites and African-Americans.
- Stomach cancer decreases slightly while mortality rates are much more favorable.
- Among males, Mexican Americans have twice the rates of testicular cancer as non-Latino White males, but Puerto Rican and Cuban American males have lower rates than non-Latino Whites.
- Mexican American men have significantly lower rates of prostate cancer than non-Latino Whites

and African Americans, but Puerto Rican men and Cuban Americans have higher rates.

- Mexican American women are at higher risk for gallbladder and other biliary cancers than women in the general population and onset appears to be earlier. Mexican women who are born in the U.S. have higher rates than women born in Mexico. Studies suggest these high rates may be related to American Indian genetic factors, obesity and dietary factors.[6]

Costs

The American Cancer Society has estimated that cancer cost the U.S. approximately $180.2 billion in 2000 ($60 billion for direct medical costs, $15 billion for indirect morbidity costs [i.e., lost productivity due to illness], and $105.2 billion for indirect mortality costs [i.e., lost productivity due to premature death]). [12]

Nebraska's share of this cost is calculated by multiplying the $180.2 billion national estimate by the fraction of the U.S. population that lives in Nebraska. According to the 2000 population data recently released by the U.S. Census Bureau, the U.S. total population is 281,441,906 and Nebraska's total population is 1,711,763 which is approximately 0.61 percent of the national population. By multiplying the $180.2 billion national estimate by the fraction of the U.S. population that lives in Nebraska (0.61%), it could be estimated that in 2000, cancer cost Nebraska $109,922,000 ($180.2 billion x 0.61).

Barriers Limiting Access To Health Care

According to the Kaiser Permanente National Diversity Council, Latinos face significant barriers that limit their access to health care services. Compared to the general population, they are the least likely to have access to a regular source of health care and are the most likely to under utilize available health care services.[6] Further barriers include:

- Limited proficiency in the use and speaking of English language, thus prompting the need for bilingual health care providers and translators.
- Cultural differences and biases.
- Acculturation – assimilation processes by which persons new in a society begin to learn and adopt the value systems, attitudes, behavior and ways of life of the host community or society.
- Lack of knowledge and under utilization of existing and available health care services and resources.
- Lack of health insurance and prone to working in employment facilities that do not provide health insurance benefits and sometimes,
- Discrimination and biases heavily entrenched in some medical and health care facilities.[6]

METHODOLOGY

The effects of cancer on health status is measured using prevalence, morbidity, mortality, relative risk, and YPLL data rates because of their ability to adjust for age. In other words, all rates used in this report were weighted and age-adjusted for better comparability and inclusiveness. The 1970 U.S. standard population was used to calculate all morbidity rates while the 1940 U.S. standard population was used to calculate all mortality rates for consistency in comparing Nebraska and the nation. The 2000 U.S. standard population was used in calculating the Nebraska age-adjusted death and YPLL rates.

The disparity in health between Nebraska's racial and ethnic minorities and the general populations was determined by measuring relative risk. Thus, relative risk calculations, along with mortality rates and years of potential life, lost rates are presented.[14]

Sources of Information for Report

The information generated for this study was obtained from the Nebraska death certificates, vital statistics and records, Cancer Registry records, Nebraska Behavioral Risk Factor Surveillance System (BRFSS), and the Nebraska Medicaid and Medicaid Managed Care Encounter records. Medicaid claims and Medicaid Managed Care encounter data records were examined to ascertain relevant data and information concerning alternate insurance coverage available to cancer patients in Nebraska.

Cancer Death Records

Nebraska's death certificate files provide information on all resident deaths that occur in the state. Examined and included in the study were all death records of Hispanic origins in Nebraska who died of cancer between 1991-2000.

Due to the small number of deaths from cancer that occur in Nebraska among Hispanics, cancer deaths were grouped under five-year periods for ease of comparison.

Cancer death is defined as any death of a Hispanic Nebraska resident who died during the period 1991-2000, from malignant neoplasms – all cancer (ICD-9 Codes 140-208) recorded as the underlying cause of death.

Nebraska and National BRFSS Statistics

Bibliographic reviews of the combined, most recent, 1994-1998 and the 1997-2001 Nebraska Behavioral Risk Factor Surveillance System (BRFSS), as well as the 1999, and 1998-1999 National BRFSS were made. The results of the analysis were included in the Nebraska and National BRFSS Result's section. Self-reported risk factor conditions were defined as any affirmative response to a series of survey questions on several conditions that can lead to cancer problems.

These included questions on cancer screening, smoking and others.[22]

Medicaid Office Visits

Medicaid office visit data was used to ascertain basic health data of individuals enrolled in the Nebraska Medicaid program. One of the major pieces of information listed on the Medicaid office visit record includes the basic reason for the visit, as coded according to the ICD-9-CM codes. This information is managed by MEDSTAT Group (see definition of terms).

Cancer office visits were defined as actual personal visits between a person enrolled in the Nebraska Medicaid program and a primary care physician, whose records lists cancer as the primary diagnosis with the codes identified as (ICD-9 Codes 140-208).

Included in this report were all available data for Medicaid clients enrolled in the 1998-2000 program.

RESULTS

Cancer Incidence Rate Results

During the 10-year period covered by this study, cancer incidence in Nebraska increased by 0.9 percent from the rate of 378.0 per 100,000 population in 1990-1994 to the rate of 381.5 in 1995-1999. In the five-year period 1995-1999, 38,766 cases of cancer were registered among Nebraska residents. There were a total of 36,730 cases of malignant cancer at the rate of 374.0 per 100,000 population among whites in Nebraska during the 1995-1999 period (Table 1).

Between 1990-1994 and 1995-1999, cancer incidence rates among Hispanics increased by 282.3 percent, which may be the result of a better recording system in the later part of the ten-year period, or because of increased population etc. Among Hispanics, there were a total of 326 malignant cancer cases during the period 1995-1999, or a cancer incidence rate of 158.3 per 100,000 population. (Table1, Figure 6).

Selected Cancer Sites: Incidence and Mortality Rates for Nebraska

During 1995-1999, Nebraska males recorded a total of 3,287 cases of lung and bronchus cancer at the rate of 74.0 per 100,000 population. There were 2,053 cases of lung and bronchus cancer at the rate of 36.9 per 100,000 population for female Nebraskans. Among Hispanic males, there were 28 cases of lung and bronchus cancer at the rate of 32.4 per 100,000 population, while Hispanic females recorded 12 cases at the rate 13.3 per 100,000 population (Table 2).

- Female Breast. Breast cancer is the most commonly diagnosed cancer among Nebraska female residents. During 1995-1999, there were 37 cases of female breast cancer at the rate of 36.6 per 100,000 population among Hispanic women (Table 2). Although the number of deaths was not shown on Table 6, during 1996-2000, there were 11 female breast cancer-related deaths and a mortality rate of 9.8 deaths per 100,000 population (see Table 8).

- Prostate. In the period 1995-1999, there were 31 cases of diagnosed prostate cancer among Hispanic men. The incidence rate for this period was 40.5 (Table 2). There were 5,606 cases among white Nebraska males at the rate of 130.2 per 100,000. Among Hispanic men, the prostate cancer age-adjusted rate was 2.5 deaths per 100,000 during the period 1996-2000 (See Table 6).

- Lung & Bronchus. During 1995-1999, 40 were diagnosed with lung and bronchus cancer: Hispanic males (28) and females (12). The incidence rate was 22.3 for males and for females, 13.3 per 100,000 population during this period (Table 2). There were 5,218 cases of lung and bronchus cancer diagnosed among whites. The incidence rate was 53.5. Among Hispanics, the annual death rate for lung and bronchus cancer during 1996-2000 was 10.9 deaths per 100,000 (See Table 6).

Comparing Nebraska and National Results for Cancer Incidence Rates

Nebraska's cancer incidence rate was lower than the national rate during the ten-year period covered by this study. In the period 1994-1998, Nebraska's cancer incidence rate was 384.0 per 100,000 population, the national rate was 395.3 in 1996. The results also show that Nebraska males (450.4) and females (336.8) had slightly lower cancer incidence rates than the U.S. males (452.2) and females (355.9), respectively. Hispanics (143.7) in Nebraska recorded a lower incidence rate than Nebraska as a whole (Table 3).

Cancer Deaths and Mortality Rates Results

Nebraska

In Nebraska, cancer continues to be ranked as the number two leading cause of death after heart disease. In 1991-1995, the cancer age-adjusted mortality rate was 119.1, causing the deaths of 16,345 Nebraska residents at an average of 3,269 deaths per year. In the period 1996-2000, cancer contributed 21.7 percent (or 16,614) of the total deaths in Nebraska, (Table 4).

The cancer age-adjusted mortality rates for the five-year period 1996-2000 was 113.5 per 100,000 population and has decreased slightly for all racial and ethnic groups, except that of African Americans. The cancer age-adjusted mortality rate decreased by 4.7 percent for Nebraska in the period 1996-2000 (Table 4).

Hispanics

Results of this study showed that 250 Nebraska Hispanic residents died from cancer or cancer-related causes (Table 4). One hundred Hispanics died from cancer during 1991-1995, and during 1996-2000 another 150 Hispanic cancer deaths were recorded. During these two separate periods, the cancer age-adjusted mortality rate remained at 56.5 deaths per 100,000 population. (Table 4, Figures 7 and 8).

National

Cancer remains the number two leading cause of death in the nation with 538,947 deaths, or 23.1 percent of the total deaths reported in 1998. The cancer age-adjusted mortality rate was 123.6 per 100,000 population in 1998, showing a decrease of 6.8 percent (Table 5) when compared to the 1997 cancer age-adjusted rate of 132.0 per 100,000 population. Cancer caused the deaths of 539,577 in 1997.

Nebraska vs. Douglas and Lancaster Counties

The Hispanic cancer age-adjusted mortality rate of 56.5 per 100,000 population was lower than the Nebraska cancer age-adjusted mortality rate of 113.5 per 100,000 for the period 1996-2000, respectively (Figure 7).
There was no significant difference between Douglas County Hispanic males (57.2) and Lancaster County Hispanic Males (56.9) in the cancer age-adjusted mortality rates. However, Douglas County Hispanic females (68.3), experienced rates more than twice the rate for Lancaster County Hispanic females (31.4). Both genders fared better than their state's counterparts during the 1996-2000 period (Figure 7A).

In general, during the two five-year periods 1991-1995 and 1996-2000, the Hispanic cancer age-adjusted mortality rates stabilized at 56.5 deaths per 100,000 population, with no change. In comparison, the cancer age-adjusted mortality rate for white was 117.8 in 1991-1995 and 112.1 deaths per 100,000 population in the period 1996-2000. This indicates a 4.8 percent decrease in cancer mortality rates for whites, (Tables 4, 5 and 6 and Figure 7). The relative risk indicates that Hispanic Americans (0.5) were less likely than white Nebraskans to die from cancer, (Table 6).

Nebraska vs. U.S. Cancer Mortality Rates Results

Although both national and state mortality rates were decreasing over the 10-year period 1991-2000, and the Nebraska's rate was lower than the nation's, the nation's rate of decrease was higher (6.8 percent) than for Nebraska (4.7 percent) (Table 5). During the period 1996-2000, Nebraska's cancer age-adjusted mortality rate (113.5) was lower than the national rate (123.6). Both Nebraska males (135.8) and females (96.5) had lower age-adjusted cancer mortality rates than their U.S. male (147.7) and female (105.5) counterparts (Table 7).

Table 8 shows selected common cancer sites. At the rate of 5.5, Hispanic females witnessed an increase in the number of breast cancer deaths (from 5 deaths in 1991-1995 to 11 deaths during 1996-2000, at 9.8. Nebraska females as a whole experienced a decrease in the number of breast cancer deaths – from 1,382 deaths in 1991-1995 to 1,290 at the rate of 16.9/100,000 population during 1996-2000. During the two five-year periods, Hispanics in Nebraska experienced an 18.7 percent increase in lung cancer deaths. At the rate of rate of 32.3 deaths, a 2.7 percent decrease in lung cancer deaths was recorded in Nebraska during the 1996-2000 period compared to the 1991-1995 period.

The results indicate that Nebraska females had a higher decrease in the breast cancer mortality rate (17.9 percent), Table 8. In comparison, U.S. females recorded a 12.6 percent decrease in breast cancer age-adjusted mortality rate from 21.5 in 1993 to 18.8 in 1998 (Table 9). Also the results revealed that during 1996-2000, Nebraska (32.3) did better than the nation (37.0) in lung cancer age-adjusted mortality rate (Tables 8 and 9).

Years of Potential Life Lost (YPLL) Due to Cancer

During the 1996-2000 period:

- Nebraska death certificate data indicate that there were 16,614 cancer deaths (Table 5). Based on 75 years of potential life, there was an annual loss of 118,474 years of potential life at an age-adjusted rate of 1,468 YPLL per 100,000 population, among Nebraskans (Table 10). Nebraska males lost 62,760 years of productive life while female Nebraskans lost 55,714 years of potential life (Table 10).

- Hispanics in Nebraska lost 2,530 years of potential life due to cancer at an age-adjusted rate of 1,009.3 YPLL per 100,000 population. Hispanic males lost 1,194 years of potential life while females lost 1,336 years of potential life lost at age adjusted rates of 956.0 and 1,073.0 YPLL per 100,000 population, respectively (Table 10).

- Years of productive life lost indicate that the minority-to-white ratios for lung cancer were (0.4), prostate cancer (0.2), and breast cancer (0.8). These rates show that Hispanics have much lower relative risks to die from these forms of cancers than white Nebraskans (Table 11).

Risk Factors for Breast and Cervical Cancer

Several breast cancer risk factors not subject to intervention include previous history of breast cancer, previous breast disease, reproductive history, race and ethnicity, age and smoking. However, the overweight risk in menopausal women is one factor that can be controlled. Early screenings and detection, Mammograms, and Pap smear are some of the actions individuals can take to control or delay the onset of cancer.

- The "U.S. Healthy People 2010" and "Nebraska 2010 Health Goals and Objectives" share the common objectives of increasing to 70 and 75 percent respectively, the number of Hispanic women 40 years and older who have had a mammogram within the last two years. Only 53 percent have met this objective, according to the 1994-1998 Nebraska Behavioral Risk Factor Surveillance System (Figure 11).

- 83 percent of Hispanic women ages 18 years and older had Pap Smear screening in the last two years (Figure12*)*.

- 74 percent of white Nebraska women reported having had Pap screening in the last two years (Figure12). (Both the U.S. and Nebraska Year 2010 objectives are to increase to 90 percent the rate of Hispanic women 18 years and older who received Pap test within last the three years.)

- Notwithstanding the progress made, substantial reductions in smoking prevalence would be required to reach the Year 2010 objectives of 12 percent for Hispanics in Nebraska.

Insurance Coverage

The combined findings of the 1997-2001 Nebraska BRFSS revealed that approximately 28.7 percent of Hispanic Nebraskans 18 years and older self-reported that they had no health insurance, compared to 8.4 and 9.4 percent for both white and Nebraska (Figure 13). In 2000 alone, 36.7 percent of Hispanic Nebraskans 18 years and older reported having no health insurance (Figure 13). The trend revealed that there has been an increase of approximately 28.9 percent of uninsured Hispanic adults since 1997.

Number of Nebraska Medicaid Enrollees

Information from the Nebraska Medicaid records indicate that there were 2,959 unduplicated Medicaid recipients clients with cancer in 1998. In 1999, the number increased to 3,253, and in 2000, to 3,464 (Table 12).

The number of Hispanics with cancer enrolled in the Nebraska Medicaid program was 102 in 1998, 123 in 1999, and 125 in 2000. Inpatient/outpatient visits for cancer among Hispanics were 1,197 in 1998, 1,356 in 1999 and 1,222 in 2000 (Table 12). A total of 51,119 Hispanics were enrolled in the program during the period 1998-2000.

Number of Hispanics with Cancer

It is not known how many Hispanics have cancer or how many have been diagnosed with cancer. This is what is known:

- According to Nebraska Vital Statistics' death certificate records, a total of 100 Hispanics died from cancer and cancer-related diseases between 1991 and 1995. Between 1996 and 2000 cancer deaths increased by 50 percent to 150, at an age-adjusted mortality rate of 56.5 deaths per 100,000 population (Table 4).

- Between 1998 and 2000, the Nebraska Medicaid unduplicated records show that a total of 350 Hispanics cancer patients were enrolled in the state Medicaid program, and a total of 3,775 inpatient/outpatient visits were recorded (Table 12).

- Between 1990 and 1994, there were only 52 cancer incidence counts, at the rate of 41.4 per 100,000 population.

- During 1995-1999, the Hispanic cancer incidence counts recorded a 282.37 percent increase to the rate of 158.3 cases per 100,000 population (Table 1). Two things revealed by this result are the fact that:

    - Although there was a tremendous increase in the cancer incidence rate for Hispanics from 1994-1998 (Table 1) to 1995-1999, when comparing Nebraska and US incidence rates, both the Hispanic and Nebraska rates still remain below the national rates. The Hispanic incidence rates also remain below the Nebraska rates (Table 3).

    - The increased number in cancer incidence counts may be attributable to a better and more reliable coding system in later years for ethnicity and to an increase in the number of the Hispanic population.

    - In 2000, the Nebraska Cancer Registry recorded 72 cancer cases for Hispanics. Of the 72 total cases, 32 were classified as Mexicans, 1 as Puerto Rican, and 2 as

- Cubans. The remaining numbers were not sub-categorized.

Comparative Trend Analysis

Nebraska 2010 Objectives vs. U.S. 2010 Baselines and Targets

The "Nebraska 2010 Health Goals and Objectives" for Hispanics 18 years of age and older include:

- reduce the overall cancer death rate to no more than 72.0 deaths per 100,000 population.
- reduce the rates to 10.7 for lung cancer deaths, 12.0 for female breast cancer deaths, 8.0 for prostate and 14.3 for colorectal cancer deaths per 100,000 population (Table 13).
- increase to 90 percent the number who had ever received a Pap test within the last 3 years.
- The objective for Hispanic females 40 years and older is to increase to 75 percent the number who had mammogram within the past 2 years.

Although the U.S. cancer rate in 1998 for Hispanics was 123.7, the U.S. overall cancer death rate was 202.4. The U.S. 2010 objective for Hispanics is to reduce the death rate to 159.9 deaths per 100,000 population.

DISCUSSION

Cancer Burden Among Hispanics and Disparities

Incidences

As is true with the overall data, the results of this study indicate that cancer is the second leading cause of death among Hispanics in Nebraska. The Nebraska Health and Human Services System's Cancer Registry records confirmed that during 1995-1999, there were 326 or about 65 new Hispanic malignant cancer cases each year.[1] The Hispanic cancer incidence rate increased by approximately 282.4 percent from 41.4 in the period 1990-1994 to 158.3 during 1995-1999 (Table 1). Although a similar increase in the cancer incidence rate among Hispanics was recorded during 1994-1998, the rate was lower than Nebraska rate, (Table 3).

The Impact of Cancer

In spite of the dramatic increase in cancer incidence rates, the Nebraska Hispanic's (143.7) age-adjusted cancer mortality rate was lower than both Nebraska's (384.0) and the nation's (395.3) during 1994-1998. From 1991-1995 to 1996-2000, while Nebraska's age-adjusted cancer mortality rate declined by 4.7 percent, the Hispanic rate stabilized with no change (Tables 3 and 5).

The cancer age-adjusted rate of deaths among Nebraska Hispanic males (58.1) was higher than that of females (55.4) as was that of the nation during the period 1996-2000. In general however, while a greater number of the deaths occurred among men in both Nebraska and the nation,[15] during 1991-2000, among Nebraska Hispanics, more females (127) than males (123) died from cancer (Table 7).

In the U.S. and Nebraska, during 1991-2000, the age-adjusted cancer mortality rates for all race and ethnic groups decreased, except for the Asian community. This study indicated that in comparing 1991-1995, and 1996-2000, cancer incidence rates among Hispanics increased. However, caution must be used in interpreting this because mortality rates in the two five-year periods remained the same. So an unprecedented increase of over 282 percent in cancer incidence rate may haven been due perhaps to:

- better reporting and coding of ethnicity in the second period 1995-1999
- aging of Hispanic population and
- increase in the Hispanic population which could explain why Hispanic rates are lower than the U.S. rates.

The YPLL rate for Hispanics went from 771 in 1991-1995 to 1,009 in the period 1996-2000, probably because cancer deaths affected more of the Hispanic younger population (Table 10).

The Nebraska BRFSS data used in this report were specific to breast cancer, mammograms and screening designed to establish the prevalence of such factors contributing to cancer.

This study showed that 53 percent of Hispanic females 40 years of age and above had a mammogram within the past 2 years. A 41.5 percent reduction is needed to meet the Nebraska Health goals 2010 objectives for this group.

Medicaid information included in this study revealed that of the 51,119 Hispanics enrolled in the Nebraska Medicaid program during 1998-2000, 350 were diagnosed with cancer. The 350 Hispanics made a total of 3,775 inpatient/outpatient hospital visits in the 3-year period 1998-2000 (Table 12).

The Impact of Gender, Common Sites, and Race

Lung and bronchus cancer are among the leading cancer sites and primary cause of cancer death among Hispanic males. For men, the leading site is lung cancer at an age-adjusted rate of 17.6 deaths per 100,000 population (Table 6). During 1996-2000, the total age-adjusted mortality rate was 10.9 deaths per 100,000 population. Men (17.6) were worse off than women at 4.7 deaths per 100,000 (Table 6). For women, the leading site is breast cancer (9.8) deaths per 100,000 population. During 1996-2000, Hispanics were at relative risk of 0.5 times likely to die from cancer than whites.[13]

The Impact of Small Numbers

Concerns have been expressed by some public health community members regarding the low number of cancer cases affecting Hispanics and other racial and ethnic groups in Nebraska. The Nebraska Cancer Registry recorded only 72 cancer cases for Hispanics in 2000 out of almost 8,000 cases. Of the 72 total cases, 32 were classified as Mexicans, 1 as Puerto Rican, and 2 as Cubans; (the remaining numbers were not sub-categorized).[13] The small number of Hispanic cancer site-specific cases in the registry presents some challenge in analyzing data to corroborate or refute national data and trends.

One of the ways to determine any meaningful data and analysis is to consolidate several years of data into a reasonable time period to generate a significant number of cases. Although age-adjustment does not take care of all the problems with small numbers, the process is applied to eliminate differences in the age composition of a population, thus holding it constant. When age-adjusted incidence rates indicate that Hispanics have much lower rates of cancer than white non-Hispanics and other racial and ethnic minorities, it does not mean that Hispanics in Nebraska have fewer cancer problems.

Another issue impacting on the small numbers is the quality of the data in the registry about race and ethnicity. Hispanics are not likely to be identified correctly in the reports as there is no self-reporting of ethnicity and race. There might be an under-reporting of persons who consider themselves Hispanic in hospitals and other health related facilities and funeral homes.

In consideration of all of the above, this study shows that Hispanics in Nebraska experience an increase of over 282 percent in the cancer incidence rate between 1990 to 1999. The Hispanic cancer incidence counts rose from 52 cases in 1990-1994 to 326 cases during 1995-1999 or from the rate of 41.4 to 158.3 per 100,000 population. During the 10-year period 1991-2000, while lung

cancer was the leading cause of cancer deaths among Hispanic men, breast cancer was the leading cause of cancer deaths among females. The trend shows an increase of approximately 28.9 percent of uninsured Hispanic adults since 1997, thus limiting access to health care services.

Progress Toward Reducing Cancer Mortality

Significant progress has been made in reducing the cancer death rate among Hispanics in Nebraska (see Tables 3, 5, 6, 7, 8 and 9). The 1996-2000 death rate of 56.5 for this group stayed the same from 1991-1995; both rates were below the Nebraska Year 2010 objectives.[16]

One of the Nebraska 2010 Health Goals and Objectives is to reduce overall deaths due to lung and breast cancer among Hispanics. However, the age-adjusted breast cancer mortality rate for Hispanic female increased by 78.2 percent from 5.5 during 1991-1995 to 9.8 in the period 1996-2000. The Hispanic lung cancer mortality rate decreased to 18.7 percent in 1996-2000 from the 1991-1995 baseline. There was a 16.7 percent decrease in the prostrate cancer rate from the 1991-1995 baseline. [16]

The Nebraska 2010 Health Goals and Objectives for the Hispanic females, age 40 years and older is to have 75 percent of those women to have a mammogram within the past 2 years. In 1994-1998, 53 percent of Hispanic women had received a mammogram screening. To achieve the Year 2010 objective, there needs to be an increase in cancer screening to reduce mortality rates and the number of breast cancer cases diagnosed at late stages of development.[21]

Results of the 1994-1998 BRFSS indicate that 83 percent of Hispanic Nebraska women have had a Pap test to screen for cervical cancer. This still falls short of the Nebraska objective of 90 percent for this group.[21]

Current Nebraska Cancer Initiatives

Efforts to prevent the burdens and problems of cancer exist at both the local and national levels. Nebraska agencies, institutes, and support-specific groups devote substantial amount of resources to the prevention of cancer. Below is a partial list:

The Nebraska Legislature established The Nebraska Cancer Registry in 1987 to determine any emerging trends to document the burden of the disease in the state, and participate in development of strategies to reduce the cancer burden.[23]

Nebraska also participates in the National Program of Cancer Registries, a federal program that seeks to standardize cancer reporting throughout the United States. Some examples of using the information include researchers who study prevention, cure and optimal treatment of cancer; investigation of cancer clusters throughout the state; identification of need for services; medical personnel who compare their practice patterns with those of others throughout the state, and the general public.[19]

The "Every Woman Matters" program is Nebraska's breast and cervical cancer early detection program, with over 40,000 women enrolled for services.[23]

The Tobacco Free Nebraska Program is another intervention program. In March 2001, the Nebraska Legislature enacted Legislative Bill 1436 that directed $7 million per year for 3 years to the Tobacco Free Nebraska Program. These funds are available as part of the National Master Settlement Agreement between 46 states and the largest tobacco companies. Additionally, $1 million comes from the Centers for Disease Control and Prevention (CDC) to conduct a comprehensive tobacco control and prevention program. [23]

From the Nebraska Cancer Research Programs, Nebraska designates three cents from every pack of cigarettes sold in the state to cancer research. These monies provide institutional grants to two medical schools and fund eighteen to twenty individual research projects each year. [23]

Nebraska also runs the Nebraska Community Based Cancer Prevention Programs. In 2001, Nebraska received a grant from the CDC for comprehensive cancer planning. The core planning team consists of representatives from community-based or state-based organizations, such as the American Cancer Society, the Urban League, the University of Nebraska Medical Center, the Chicano Awareness Center, the Ponca Tribe, Charles Drew Community Health Center and, the Nebraska Department of Health and Human Services. [23]

Current National Cancer Interventions

In support of the Healthy People 2010 objectives, the CDC has vowed to continue to work to remove the gaps created by the disproportionate cancer burden among racial and ethnic minorities. Through its Division of Cancer Prevention and Control (DCPC), CDC encourages and supports various activities aimed toward reducing racial and ethnic disparities in cancer, including:

- Eliminating barriers to screening and early detection.
- Implementing community-based education programs and outreach initiatives that target and address specific needs of different racial and ethnic groups.
- Tracking cancer rates among minority populations.
- Increasing and improving research efforts that target minority and underserved populations.
- Recruiting members of minority groups into clinical trials. [20]

Congress established the National Program of Cancer Registries (NPCR) in 1992 by enacting the Cancer Registries Amendment Act, Public Law 102-515. The Congressional mandate Public Law (1998 Code) authorizes the Centers for Disease Control and Prevention (CDC) to provide funds to states and territories

- To improve existing cancer registries,
- To plan and implement registries where they do not exist,
- To develop model legislation and regulations for states to enhance the viability of registry operations,

- To set standards for data completeness, timeliness, and quality,
- To provide training for registry personnel, and to help establish a computerized reporting and data-processing system. [24]

"A national system of cancer registries can help us understand the disease better and use our resources to the best effect in prevention and treatment," [24] said Donna Shalala, former Secretary, U.S. Department of Health and Human Services.

The National Cancer Registrars Association and the North American Association of Central Cancer Registries were established in 1976 and 1987, to provide surveillance systems for tracking cancer deaths, illnesses, disability, data, management, etc. States across the nation belong to these associations and many have their own Cancer Registries, including Nebraska.

Limitations and Concerns

- Data and information from hospital discharge records in Nebraska were not used because the records do not provide information on race or ethnicity.

- According to the American Cancer Society, all national cancer data used in this report, comparison of cancer rates between racial and ethnic groups, particularly those for groups other than whites or blacks, should be interpreted with caution because ethnicity and race are not always classified uniformly on medical records, death certificates, and the census. Also, cancer surveillance data for some racial and ethnic groups are limited to recent years only. Furthermore, minority groups in areas with cancer surveillance systems may not accurately reflect the experience of minority groups throughout the United States. Comparisons made between Hispanics and non-Hispanics consider only ethnicity and do not describe potential racial differences. [12]

- The small number of Hispanic cases in the Nebraska cancer registry makes it challenging to analyze cancer site-specific cases and data for Hispanics. There were 72 cancer cases recorded for Hispanics in 2000 out of almost 8,000 cancer cases and only about 10 to 15 cases for a given or the most frequent cancer sites. This fact makes it difficult to corroborate or refute national data and trends.

- It is also suspected that many people who are of Hispanic origin may not have been classified as such in the registry, thus compounding this problem.

Challenges Ahead: Implications for Health Service Delivery

Despite current progress made, and the decrease in cancer mortality nationwide and in the state, there continues to be persisting disparities in the incidence of morbidity, illness, and deaths attributed to cancer among Hispanics and other racial and ethnic minorities. Cancer ranks second as a leading cause of death for Hispanics, accounting for 250 deaths over the ten-year period of this study, (Table 4). One of the challenges includes identifying the reasons for the 282 percent increase

in the incidence rate of cancer and what intervening programs are available to address the problem. Differences among races in cancer incidences indicate that there are strong disparities in cancer health outcomes among Hispanics.

The disparity within the state for adequate access to health care is large with as many as 36 percent of Nebraska Hispanic adults not having any health insurance, compared to only 8.1 percent of white Nebraskans have no health insurance.

Included in the challenge is the need to increase the number of Hispanic women 40 years and older who go for mammograms, thereby increasing the percentage to more than the current rate of 53 percent. In addition, the challenge is to have Nebraska Hispanic adult women 18 years and older to have a Pap test within the last 3 years in order to meet the Healthy People 2010 objective of 90 percent, (from the current 83 percent).

Obviously, there are areas where efforts need to be intensified, such as in the cancer incidence areas and reaching the uninsured. Nebraska's challenge includes continuing effective interventions to maintain the relatively low cancer death rates among Hispanics and thus finding ways of identifying model programs and implementing them among the various racial and ethnic groups in the state.

Although Hispanics are a generally healthy people, they are by no means spared or free from cancer disparities. The Kaiser Permanente National Diversity Council and the Kaiser Permanente National Diversity Department offered the following relevant views:

- Latinos are a generally healthy population. There is indication, however, that the longer they are in the U.S., the more health problems they experience, but their health beliefs and epidemiological patterns are distinct from the general population.

- Latino patients should be advised on the importance of regular cancer screening and provided with culturally relevant materials on early detection since Latinos often present with cancer in the later stages.

- Educate Latino patients with cancer on the ability to treat the cancer and provide referrals to culturally sensitive resources. Become aware of the significant variation in cancer sites and rates across Latino subgroups. [6]

To continue to reduce or eliminate health disparities by the year 2010, delivery service systems currently in use may need to undergo some fundamental changes. The cancer surveillance registry system could begin to classify Hispanic cancer cases and data according to various Hispanic subgroups, thus lending premium advantage in analyzing cancer site-specific cases. According to Drs. Goode and Sockalinga, both of the National Center for Cultural Competence in Washington D.C., "A key tool in the elimination of health disparities is the incorporation of culturally competent values, attitudes, policies, structures, and practices."[25]

While several efforts are being made at both local and national levels to arrest the burdens and problems of cancer in general, it is important to note that reduction of health disparities is a shared responsibility requiring individual ownership and accountability as well as institutional involvement. Collaborating with federal, state, and local businesses, schools, universities, and faith-based organizations in cancer intervention efforts to ensure proper education and awareness of cancer, along with comparable research, will greatly enhance the identification of the causes of these disparities. An overall evaluation of existing programs might be needed to ensure more effective outcomes in the way health messages are communicated, delivered, and implemented in the communities.

Continuing and intensifying existing intervening cancer programs among ethnic and racial communities is essential in the elimination of cancer disparities. Early identification of cancer problems among Hispanics, along with proper evaluation, selection, and implementation of cancer model programs are essential in addressing and eliminating health disparities from cancer. Intensified cancer educational awareness programs, perhaps with the use and services of Hispanic cultural health promotoras and constant evaluation and monitoring of cancer programs may be considered in the efforts to eliminate health disparities.

REFERENCES

1. Nebraska Health and Human Services System. Nebraska Health & Human Services System 2000, Vital Statistics Report.

2. Nebraska Health and Human Services System, Department of Services, Preventive and Community Health, Office of Minority Health and Human Services. *Health Status of Racial and Ethnic Minorities in Nebraska Repor*t, April 2001.

3. North American Association of Central Cancer Registries, Cancer in North America 1994-1998, Volume One: Incidence, 2001.

4. The Nebraska Health and Human Services System. Nebraska Epidemiology Report, Asthma In Nebraska, 1987-1998.

5. American Heart Association. 2001 Heart and Stroke Statistical Update.

6. Kaiser Permanente: A Provider's Handbook on Culturally Competent Care – Latino Population, Revised Edition 2000.

7. Neas, B. R. (2000). Introduction to Basic Statistics: A Regional Program in Biostatistics and Epidemiology. *Health Agency Training, University of Oklahoma Health Sciences Center.*

8. National Library of Medicine, Current Bibliographies in Medicine: Hispanic-American Health, January 1990 through July 1994.

9. U.S. Census Bureau, 1999 census figures.

10. U.S. Census Bureau, 2000 census figures.

11. Centers for Disease Control and Prevention; National Center for Health Statistics National Vital Statistics Reports, 1997 and 1998; Cancer Surveillance System (NPCR-CSS): Rationale and Approach, July 1999; CDC Wonder, Compress Mortality Query Results, 1993, 1998.

12. American Cancer Society, Surveillance Research, 2001.

13. Nebraska HHSS; Nebraska Cancer Registry: Saving Lives In Nebraska, Cancer Facts & Figures 2000-2001.

14. Nebraska HHSS, Minority Health Status Report, 2001.

15. American Cancer Society, CDC: Nebraska Cancer Burden, 2000.

16. Nebraska Health and Human Services System, Vital Statistics, 1996-2000.

17. National Cancer Registrars Association, History.

18. Cancer Registries, CDC, Cancer Surveillance System (NPCR-CSS), Rationale and Approach, July 1999.

19. State Data Integration Activities ---Nebraska, 2001.

20. CDC: Activities to Eliminate Racial and Ethnic Disparities in Cancer, 2000.

21. Nebraska 2010 Health Goals and Objectives, May 2002.

22. Nebraska Health and Human Services System, BRFSS 1994-1998.

23. NGA Center for BEST PRACTICES, Nebraska Cancer Surveillance Programs, www.nga.org/ special/1,1260,C MINI WEB SITE^D 974,00.html

24. CDC, National Program of Cancer Registries, http://www.cdc.gov/cancer/npcr/.

25. Twara Goode, and Suganya Sockalingam, “A Conceptual Framework for Achieving Organizational Cultural Competency: Implications for Rural Health,” National Center for Cultural Competence, Washington D.C. December 6-7, 2001.

APPENDIX

Table 1
Cancer (All Sites)
Number of Cases/Morbidity and Rates*
By Race/Ethnicity for Nebraska Residents
1990-1994 vs. 1995-1999

Category	Incidence 1990 -1994		Incidence 1995 - 1999		Percentage Change in Rate
	Count	Rate*	Count	Rate*	
White	35,937	374.5	36,730	374.0	-0.13
African American	919	440.5	949	402.3	-8.67
Native American	94	256.1	95	227.8	-11.05
Asian	55	105.9	127	234.6	+52.46
NE Hispanic	**52**	**41.4**	**326**	**158.3**	**+282.37**
Douglas County Hispanic	**-**	**-**	**82**	**116.1**	**-**
Lancaster County Hispanic	-	-	**34**	**183.8**	-
All Races	37,341	378.0	38,766	381.5	+0.93

* Rates age-adjusted per 100,000 population, 1970 U.S. Standard Population.
Source: Nebraska Health and Human Services, Cancer Registry 2000-2001

Table 2
Selected Cancer Sites
Incidence Counts and Rates*
By Gender for Nebraska and Hispanics
1994-1998 and 1995-1999

Cancer Sites	1994-1998				1995-1999			
	Incidence Count		Incidence Rate		Incidence Count		Incidence Rate	
Gender	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Nebraska Lung and Bronchus	3,330	2,042	75.5	37.2	3,287	2,053	74.0	36.9
Breast	-	5,836	-	108.8	-	5,864	-	108.6
Prostate	5,968	-	134.6		6,057	-	136.4	-
White Lung and Bronchus	5,142		53.3		5,218		53.5	
Female	-	1,956		36.7	3,202	2,016	74.1	37.1
Male	3,186	-	74.3	-		-		
Breast	-	5,620	-	108.8	-	5,864	-	108.6
Prostate	5,533	-	128.5	-	5,606	-	130.2	-
Hispanic Lung and Bronchus:	33		19.4		40		22.3	
Female	-	11	-	12.9		12.0		13.3
Male	22	-	27.1	-	28	-	32.4	-
Hispanic Breast	-	30		32.0	-	37	-	36.6
Hispanic Prostate	30	-	42.2	-	31	-	40.5	-

* Rates Age-adjusted per 100,000 population; Incidence Rates adjusted to the 1970 U.S. Standard Population
Source: Nebraska Health and Human Services System, Cancer Registry: Saving Lives in Nebraska, Cancer Facts & Figures 2000-2001, pp. 6-7

Table 3
Cancer (All Sites –Invasive)
Incidence Rates* for Nebraska and US**
By Sex, Race and Ethnic Group
1989-1993 vs. 1994-1998

Category	U.S. 1991** Age-Adjusted Incidence Rate*	NE 1989-1993 Age-Adjusted Incidence Rate*	U.S. 1996** Age-Adjusted Incidence Rate*	NE 1994-1998 Age-Adjusted Incidence Rate*
Total	417.8	370.4	395.3	384.0
Males	516.8	454.5	452.2	450.4
Females	351.7	314.4	355.9	336.8
White Total		367.6		376.7
Males		450.8		438.7
Females		312.3		333.0
Hispanics Total		35.1		143.7
Males		37.1		157.2
Females		34.9		131.9

*Rates/100,000 Age-Adjusted to 1970 US Standard Population
** U.S. Midpoints for 1991-1995 and 1996-2000 for the Nebraska Analysis
Source: CDC, SEER Program Incidence Rate and National Vital Statistics, 1989-1993; Nebraska Health and Human Services System, Cancer Registry (1994-1998).

Table 4
Cancer Mortality Rates* and Number of Deaths (All Sites)
Nebraska, Douglas and Lancaster Counties
By Gender, Race/Ethnicity, and Year
*Rates Age-Adjusted using the 1940 U.S. Standard Population
1996-2000 Vs. 1991-1995

Category	Mortality Rates 1991-1995	Number of Deaths 1991-1995	Mortality Rates 1996-2000	Number of Deaths 1996-2000	Percent (%)Change in Mortality Rates From (1991-1995) To (1996-2000)
Nebraska	119.1	16,345	113.5	16,614	**-4.7**
Nebraska Male	144.6	8,663	135.8	8,603	**-6.1**
Nebraska Female	100.3	7,682	96.5	8,011	**-3.8**
Nebraska White	117.8	15,778	112.1	15,994	**-4.8**
White Male	142.6	8,340	134.1	8,284	**-6.0**
White Female	99.7	7,438	95.3	7,710	**-4.4**
Nebraska Hispanic	56.5	100	56.5	150	**0**
Hispanic Male	59.7	50	58.1	73	**-2.7**
Hispanic Female	54.9	50	55.4	77	**-.9**
Douglas County	134.4	4,081	126.2	4,125	**-6.1**
Douglas County Male	168.9	2,151	153.4	2,085	**-9.2**
Douglas County Female	110.2	1,930	106.3	2,040	**-3.5**
Douglas County White	130.2	3,637	122.3	3,657	**-6.1**
Douglas County White Male	162.0	1,896	148.5	1,842	**-8.3**
Douglas County White Female	107.9	1,741	103.3	1,815	**-4.3**
Douglas County Hispanic	42.2	27	62.8	50	**+49.0**
Douglas County Hispanic Male	38.3	11	57.2	21	**+49.4**
Douglas County Hispanic Female	48.6	16	68.3	29	**+40.5**
Lancaster County	121.1	1,866	113.4	1,949	**-6.4**
Lancaster County Male	145.5	945	135.3	973	**-7.0**
Lancaster County Female	104.7	905	98.5	976	**-6.0**
Lancaster County White	120.9	1,832	112.2	1,893	**-7.2**
Lancaster County White Male	145.6	927	132.7	936	**-8.9**
Lancaster County White Female	104.7	905	98.3	957	**-6.1**
Lancaster County Hispanic	56.5	14	44.1	11	**-22.0**
Lancaster County Hispanic Male	92.0	8	56.9	7	**-38.2**
Lancaster County Hispanic Female	81.4	6	31.4	4	**-61.4**

*Age-Adjusted Rates per 100,000 Population, adjusted to the 1940 US Standard Population
Source: Nebraska Health and Human Services System, Vital Statistics, 1996-2000.

Table 5
Number of Cancer Deaths, Mortality Rates*
And Percentage Change for U.S. and Nebraska by Race and Ethnic Group
1991-1995 vs. 1996-2000

Category	Total Cancer Deaths 1991-1995	Mortality Rate* 1991-1995	Total Cancer Deaths 1996-2000	Mortality Rate* 1996-2000	Percentage Change in Mortality Rates* 1991-2000
Cancer Deaths					
U.S. Cancer death for 1998			538,947	123.6	-6.8%
Nebraska	16,345	119.1	16,614	113.5	-4.7%
White	15,778	117.8	15,994	112.1	-4.8%
Hispanic	**100**	**56.5**	**150**	**56.5**	**0.0%**
African American	467	177.0	497	162.1	-8.4%
Native American	69	144.1	67	142.7	-0.9%
Asian American	30	67.0	54	85.7	+27.9%

*Rates, Age-adjusted to the 1940 U.S. Standard Population
Source: Nebraska HHSS Vital Statistics (1991-2000)

Table 6
Cancer
Mortality Rates* and Relative Risk of Mortality
For Nebraska by Gender, Race and Ethnic Group
1991-1995 vs. 1996-2000

Category	1991-1995 Age-Adjusted* Mortality Rate/100,000 Population			Relative Risk			1996-2000 Age-Adjusted* Mortality Rate/100,000 Population			Relative Risk		
Cancer (All Sites)	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
White	117.8	142.6	99.7				112.1	134.1	95.3			
African American	177.0	239.1	134.2	1.5	1.7	1.3	162.1	202.7	132.5	1.4	1.5	1.4
Native American	144.1	210.9	92.3	1.2	1.2	1.2	142.7	157.2	135.9	1.3	1.2	1.4
Asian American	67.0	63.2	71.0	0.6	0.4	0.7	85.7	97.4	79.6	0.8	0.7	0.8
Hispanic American	**56.5**	**59.7**	**54.9**	**0.5**	**0.4**	**0.6**	**56.5**	**58.1**	**55.4**	**0.5**	**0.4**	**0.6**
Nebraska Total	119.1	144.6	100.3				113.5	135.8	96.5			
Lung Cancer												
White	32.7	47.2	21.0				31.8	44.0	21.9			
African American	58.7	82.9	40.8	1.8	1.8	1.9	51.3	77.4	31.6	1.6	1.8	1.4
Native American	42.3	79.6	15.7	1.3	1.7	1.7	35.6	49.7	27.0	1.1	1.1	1.2
Asian American	7.7	6.0	9.9				19.4	25.6	16.3			
Hispanic American	13.4	13.3	13.5	0.4	0.3	0.2	10.9	17.6	4.7	0.3	0.4	0.2
Nebraska Total	33.2	48.0	21.4				32.3	44.8	22.3			
Prostate Cancer												
White	13.5	13.5	-			-	11.7	11.7	-			-
African American	25.9	25.9	-			-	18.4	18.4	-			-
Native American	17.0	17.0	-			-	8.4	8.4	-			-
Asian American	4.6	4.6	-			-	0.0	0.0	-			-
Hispanic American	3.0	3.0	-			-	2.5	2.5	-			-
Nebraska Total	13.8	13.8	-			-	11.8	11.8	-			-
Breast Cancer												
White	20.7	-	20.7		-		16.7	-	16.7		-	
African American	23.2	-	23.2		-		26.5	-	26.5		-	
Native American	1.3	-	1.3		-		13.0	-	13.0		-	
Asian American	0.0	-	0.0		-		14.1	-	14.1		-	
Hispanic American	5.5	-	5.5		-		9.8	-	9.8		-	
Nebraska Total	20.6	-	20.6		-		16.9	-	16.9		-	

*Age-Adjusted to 1940 U.S. Standard Population
Source: Nebraska Health and Human Services System, Vital Statistics Data, 1991-1995 and 1996-2000.

Table 7
Cancer (All Sites –Invasive)
Mortality and Mortality Rates* for Nebraska and U.S.**
By Sex, Race and Ethnic Group
1991-1995 vs. 1996-2000

Category	U.S. 1993** Age-Adjusted Mortality Rate	NE 1991-1995 Age-Adjusted Mortality Rate	Total Deaths		U.S. 1998** Age-Adjusted Mortality Rate	NE 1996-2000 Age-Adjusted Mortality Rate	Total Deaths	
			U.S. 1993	NE 1991-1995			U.S. 1998	NE 1996-2000
Cancer (All Sites)								
Total	132.6	119.1	529,904	16,345	123.6	113.5	541,532	16,614
Males	161.9	144.6	279,375	8,663	147.7	135.8	282,065	8,603
Females	111.4	100.3	250,529	7,682	105.5	96.5	259,467	8,011
African American	177.2	-	59,873	-	161.2	-	61,193	-
White	129.5	-	461,904	-	121.0	-	470,139	-
Other	80.7	-	8,127	-	-	-	-	-
White Total	-	117.8	-	15,778	-	112.1	-	15,994
Males	-	142.6	-	8,340	-	134.1	-	8,284
Females	-	99.7	-	7,438	-	95.3	-	7,710
Hispanics Total	-	56.5	-	100	-	56.5	-	150
Males	-	59.7	-	50	-	58.1	-	73
Females	-	54.9	-	50	-	55.4	-	77

*Rates/100,000 Age-Adjusted to 194 U.S. Standard Population
** U.S. Midpoints for 1991-1995 and 1996-2000 for the Nebraska Analysis
Source: CDC, SEER Program Incidence rate and National Vital Statistics, 1973-1998; Nebraska Health and Human Services System, Vital Statistics (1991-2000).

Table 8
Cancer Mortality*
Selected Common Sites for Nebraska
By Race/Ethnic Group, Gender and Percent
1991-1995 and 1996-2000

Category	1991-1995		1996-2000		Percent Change 1991-1995 To 1996-2000
	Age-Adjusted Mortality Rate per 100,000 Population	Death Count	Age-Adjusted Mortality Rate per 100,000 Population	Death Count	
Breast Cancer (Female)					
Total	20.6	1,382	16.9	1,290	-17.9
White	20.7	1,348	16.7	1,235	-19.3
Hispanic	5.5	5	9.8	11	78.2
Lung Cancer					
Total	33.2	4,210	32.3	4,395	-2.7
White	32.7	4,041	31.8	4,223	-2.8
Hispanic	13.4	22	10.9	27	18.7
Lung Cancer (Males)					
Total	48.0	2,728	44.8	2,707	-6.7
White	47.2	2,622	44.0	2,596	-6.8
Hispanic	13.3	10	17.6	21	32.3
Lung Cancer (Females)					
Total	21.4	1,482	22.3	1,688	4.2
White	21.0	1,419	21.9	1,627	4.3
Hispanic	13.5	12	4.7	6	-67.7
Prostate Cancer (Males)					
Total	13.8	1,104	11.8	990	-14.5
White	13.5	1,069	11.7	962	-13.3
Hispanic	3.0	3	2.5	3	-16.7

*Age-Adjusted to the U.S. 1940 Standard Population
Sources: Nebraska Health and Human Services System, Vital Statistics

Table 9
Nebraska Cancer Mortality
Selected Common Sites for U.S.
By Race/Ethnic Group and Gender
1993 and 1998 (Mid-points for Nebraska Analysis)

Category	1993 Age-Adjusted* Mortality Rate per !00,000 Population	1993 Death Count	1993 Crude Death Rate	1998 Age-adjusted* Mortality Rate per 100,000 Population	1998 Death Count	1998 Crude Death Rate
Breast Cancer						
U.S.	21.5	43,555	32.99	18.8	41,737	-
African Am.	27.1	4,998	29.50	25.3	5,281	29.15
White	21.2	38,044	34.73	18.3	35,759	31.49
Other	9.5	513	9.27	9.9	697	10.49
Lung Cancer (Both Gender)						
U.S.	39.3	148,855	57.73	37.0	154,561	57.15
African Am.	48.9	15,641	48.56	44.6	16,105	46.71
White	38.9	131,337	61.13	36.8	136,026	60.96
Other	19.1	1,877	17.38	18.5	2,430	18.90
Lung Cancer (Males)	55.7	92,564	73.55	49.5	91,447	69.21
African Am.	80.8	10,733	70.29	68.5	10,288	62.86
White	54.0	80,620	76.56	48.4	79,649	72.70
Other	28.0	1,211	23.00	26.3	1,510	24.30

*Age-Adjusted to 1940 U.S. Standard Population
Source: CDC Wonder, Compressed Mortality Query Results, 1993, 1998

Table 10
Cancer Mortality
Years of Potential Life Lost Based on 75 Potential Years of Life
For Nebraska, Douglas and Lancaster Counties
By Race/Ethnicity and Gender 1991-2000

Category	1991-1995			1996-2000		
Cancer All Sites	# of Total YPLL	*Age-Adjusted Rate/100,000	Minority-to-White Ratio**	# of Total YPLL	*Age-Adjusted Rate/100,000	Minority-to-White Ratio**
Nebraska Total	122,515	1,608.1		118,474	1,468.0	
Male	64,972	1,752.1		62,760	1,601.2	
Female	57,543	1,481.0		55,714	1,349.3	
White Total	116,084	1,589.1		110,888	1,439.4	
Male	61,320	1,720.3		59,009	1,572.8	
Female	54,764	1,413.9		51,880	1,320.2	
African American Total	5,366	2,462.7	1.5	5,898	2,277.2	1.6
Male	2,955	2,911.5	1.7	2,984	2,540.1	1.6
Female	2,411	2,081.4	1.5	2,914	2,068.3	1.6
Native American Total	649	1,661.0	1.0	841	1,987.4	1.4
Male	472	2,566.3	1.5	367	1,917.6	1.2
Female	177	862.7	0.6	474	2,062.6	1.6
Asian American Total	411	759.1	0.5	812	1,106.9	0.8
Male	225	837.4	0.5	401	1,297.8	0.8
Female	186	686.0	0.5	411	970.0	0.7
Hispanic Total	1,203	771.4	0.5	2,530	1,009.3	0.7
Male	681	796.8	0.5	1,194	956.0	0.6
Female	523	744.5	0.5	1,336	1,073.0	0.8
Douglas Co. Hispanic Total	274	516.6	0.3	753	1,079.7	0.8
Male	53	272.0	0.2	299	952.0	0.7
Female	221	807.0	0.5	454	1,218.6	0.9
Lancaster Co. Hispanic Total	182	1,211.4	0.8	234	1,738.7	1.2
Male	114	1,288.2	0.8	73	759.6	0.5
Female	68	1,104.4	0.7	102	625.8	0.4

*Adjusted to 2000 U.S. Standard Population
**Minority Age-Adjusted YPLL Rate/100,000 divided by White Age-Adjusted YPLL Rate/100,000
Source: Nebraska Health and Human Services System, Vital Statistics.

Table 11
Cancer Mortality
Years of Potential Life Lost
Based on 75 Productive Years of Life for Nebraska
by Site and Race/Ethnicity 1991-2000

Category	1991-1995			1996-2000		
Lung Cancer	# of Total YPLL	*Age-Adjusted Rate/100,000	Minority-to-White Ratio**	# of Total YPLL	*Age-Adjusted Rate/100,000	Minority-to-White Ratio**
Total	30,899	407.9		30,917	382.3	
White	29,220	399.9		28,838	371.8	
African American	1,506	779.7	1.9	1,732	726.0	2.0
Native American	153	439.7	1.1	182	489.4	1.3
Asian American	21	57.7	0.1	165	254.0	0.7
Hispanic American	153	126.0	0.3	331	151.2	0.4
Prostate Cancer						
Total	2,478	63.6		2,289	58.4	
White	2,478	63.6		2,229	58.9	
African American	127	147.1	2.3	61	68.1	1.2
Native American	27	179.9	2.8	0	0.0	0.0
Asian American	0	0.0	0.0	0	0.0	0.0
Hispanic American	6	9.6	0.2	11	13.6	0.2
Breast Cancer						
Total	13,639	362.2		11,291	277.1	
White	13,015	361.6		10,582	272.9	
African American	624	505.0	1.4	571	423.4	1.6
Native American	0	0.0	0.0	77	302.9	1.1
Asian American	0	0.0	0.0	812	1,106.9	4.1
Hispanic American	102	134.7	0.4	221	220.2	0.8

*Adjusted to 2000 U.S. Standard Population
**Minority Age-Adjusted YPLL Rate/100,000 divided by White Age-Adjusted YPLL Rate/100,000
Source: Nebraska Health and Human Services System, Vital Statistics.

Table 12
Unduplicated Number of Medicaid Enrollees with Cancer as
The Primary Diagnosis for Nebraska by Race/Ethnicity, Gender and Age and Visits
1998-2000

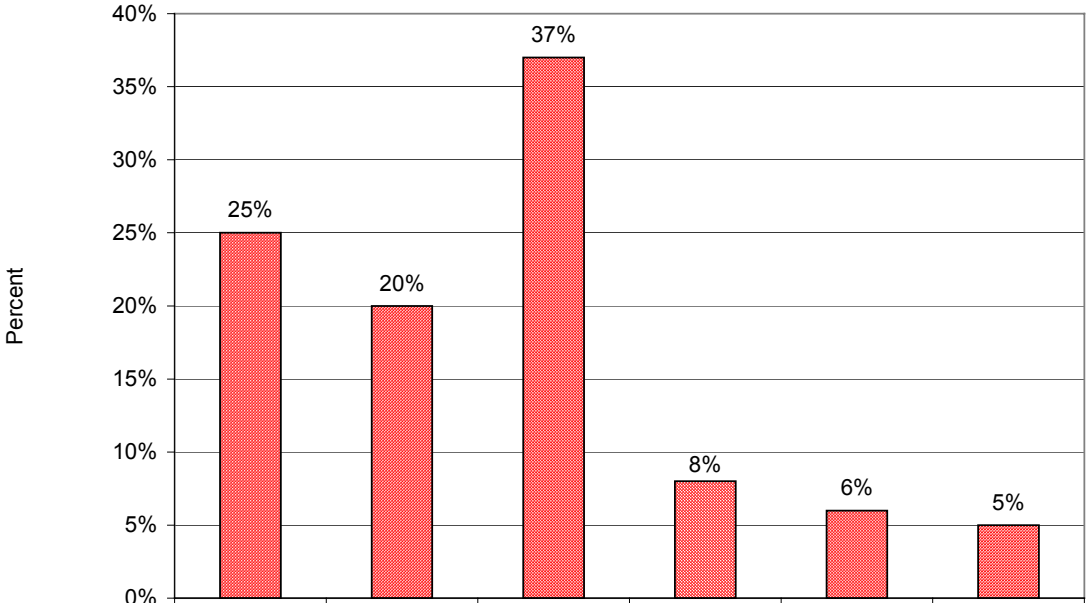
Category	1998	1999	2000	Total
Nebraska Total	2,959	3,253	3,464	9,676
Males	1,038	1,202	1,240	3,480
Females	1,914	2,042	2,213	6,169
Unborn	7	9	11	27
White	2,555	2,756	2,923	8,234
African American	218	249	254	721
Native American	36	48	50	134
Hispanic	102	123	125	350
Asian/Pacific islander	22	25	18	65
Other	26	52	94	172
Age Group				
0	19	27	15	61
1-4	48	57	64	169
5-20	158	175	190	523
21-44	484	506	481	1,471
45-64	695	754	821	3,741
65-74	490	559	616	1,665
75-84	606	665	720	1,991
85+	459	510	557	1,526
Total Inpatient/Outpatient Visits	28,816	32,419	38,218	99,453
Males	10,997	12,041	13,174	36,212
Females	17,803	20,365	24,935	63,103
Unborn	16	13	109	138
White	23,570	26,715	30,976	81,261
African American	2,848	3,087	4,273	4,273
Native American	499	545	433	1,477
Hispanic	1,197	1,356	1,222	3,775
Asian/Pacific Islander	204	251	313	768
Other	498	465	1,009	1,972
Source: Nebraska Medicaid Program, 1998-2000				

Table 13
Cancer
Nebraska vs. U.S. Healthy People 2010 Goals and Objectives

Objective: Cancer Sites & Group	U.S Data	U.S. Current	U.S. 2010	NE Data	NE Current	NE 2010
	Year	Rate	Objective	Year	Rate	Objective
Overall Cancer Death Rate	1998	202.4	159.9	1998	186.0	147.0
White	1998	199.3	159.9	1994-1998	187.5	147.0
Hispanic	1998	123.7	159.9	1994-1998	91.2	72.0
Lung Cancer Death Rate	1998	57.6	44.9	1998	50.1	39.0
White	1998	57.5	44.9	1994-1998	50.3	39.0
Hispanic	1998	22.7	44.9	1994-1998	13.7	10.7
Breast Cancer Death Rate (Females)	1998	27.9	22.3	1998	25.9	20.7
White	1998	27.3	22.3	1994-1998	28.4	20.7
Hispanic	1998	16.8	22.3	1994-1998	15.0	12.0
Cervical Cancer Death Rate	1998	3.0	2.0	1998	3.1	2.0
White	1998	2.7	2.0	1994-1998	2.7	2.0
Hispanic	1998	3.3	2.0	1994-1998	*	2.0
Prostate Cancer Death Rate (Males)	1998	31.9	28.8	1998	28.8	25.9
White	1998	29.4	28.8	1994-1998	29.8	25.9
Hispanic	1998	20.9	28.8	1994-1998	8.8	8.0
Colorectal Cancer Death Rate	1998	21.2	13.9	1998	21.6	14.3
White	1998	20.8	13.9	1994-1998	22.2	14.3
Hispanic	1998	12.8	13.9	1994-1998	16.9	14.3
Percent of Women who ever received a Pap test within last 3 years (age 18+ with or without uterine cervix	1998	79	90	1999	76	90
White	1998	79	90	1994-1998	77	90
Hispanic	1998	74	90	1994-1998	84	90
Percent of Women age 40+ who Had Mammogram within the past 2 Years	1998	67	70	1999	70	75
White		67	70	1994-1998	64	75
Hispanic		61	70	1994-1998	53	75

Source: Nebraska 2010 Health Goals and Objectives, May 2002

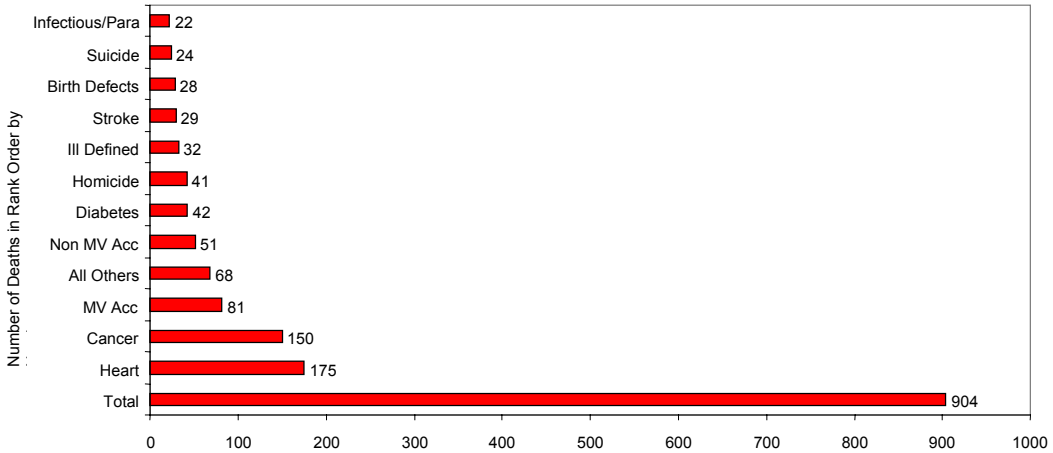
Figure 1
Leading Causes of Death Among Hispanics,
All Ages, in Percentage* U.S., 1997



	Heart Disease	Cancer	Other Causes	Accidents	CVD	Diabetes
U.S., 1997	25%	20%	37%	8%	6%	5%

*Due to Approximation, percentage may be a little over 100%
Source: National Vital Statistics Reports 1999, National Centers for Health Statistics, Centers for Disease Control and Prevention, American Cancer Society, Surveillance Research, 2001.

Figure 2
12 Selected Leading Causes of Death* Among Hispanics,
All Ages, Nebraska, 1996-2000

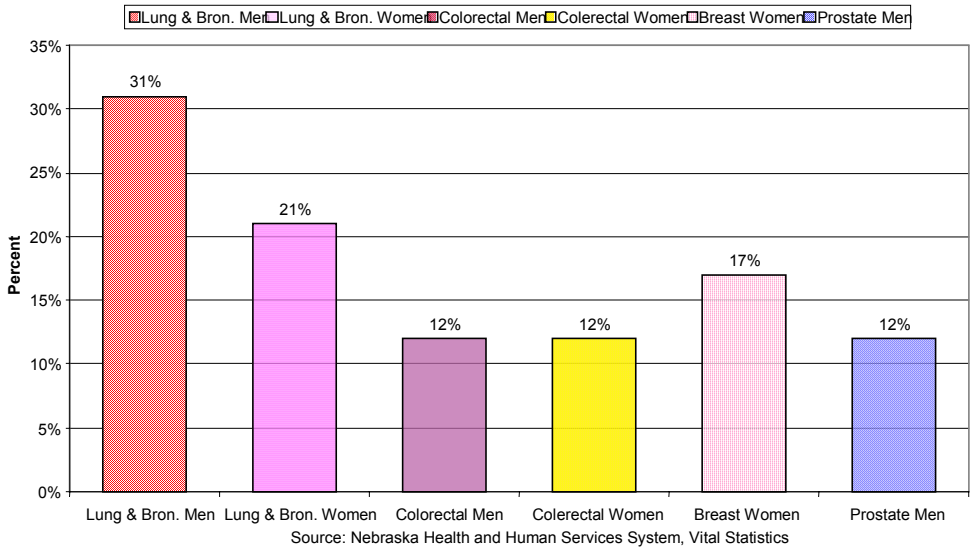


	Total	Heart	Cancer	MV Acc	All Others	Non MV Acc	Diabetes	Homicide	Ill Defined	Stroke	Birth Defects	Suicide	Infectious/Para
1996-2000	904	175	150	81	68	51	42	41	32	29	28	24	22

*Total Number of Deaths for Each Cause
Source: Nebraska Health and Human Services System, Vital Statistics 1996-2000

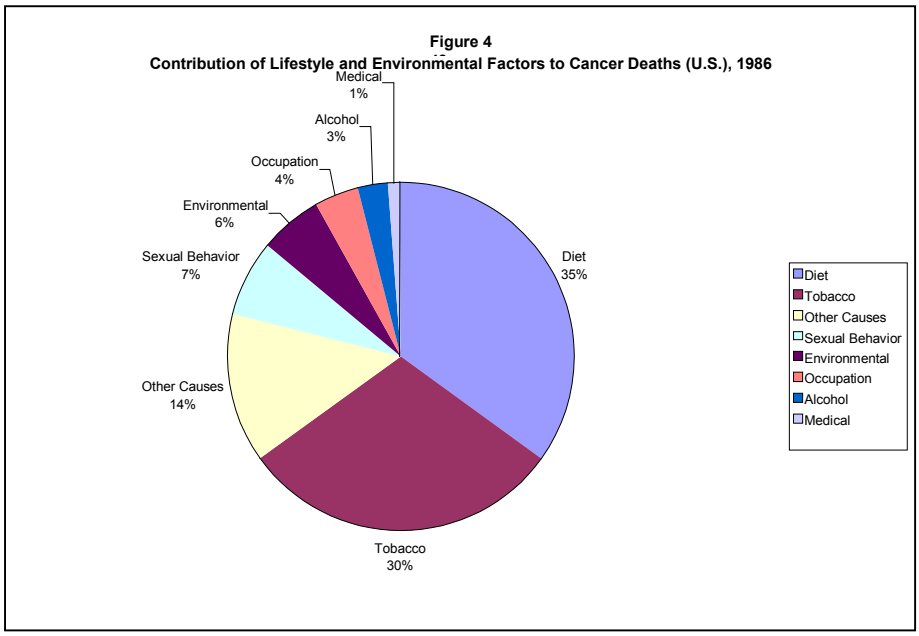
Figure 3

Nebraska Leading Sites of Cancer Deaths for Men and Women
All Racial and Ethnic Minorities by Percent 2000-2001



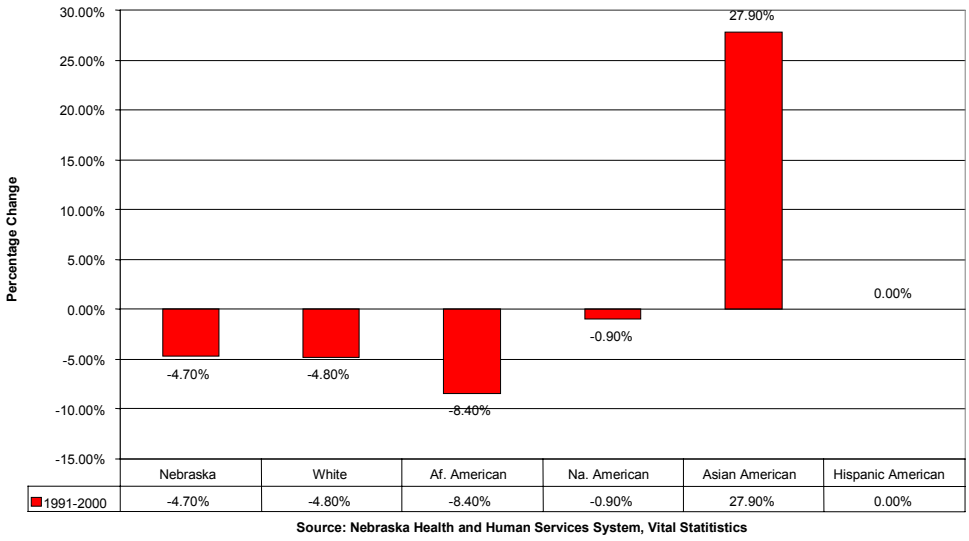
Source: Nebraska Health and Human Services System, Vital Statistics

Figure 4
Contribution of Lifestyle and Environmental Factors to Cancer Deaths (U.S.), 1986



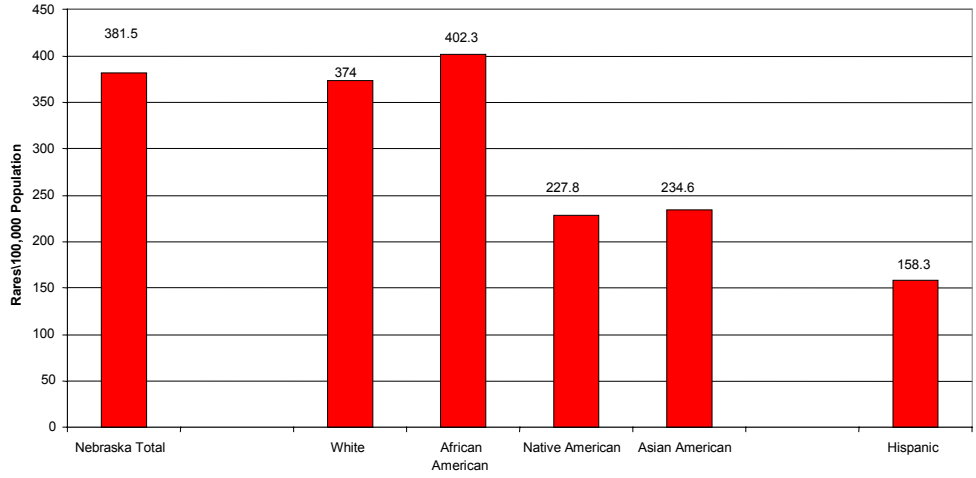
Source: National Cancer Institute, 1986

Figure 5
Percentage Change in Nebraska Cancer Mortality
by Race and Ethnicity, 1991-2000



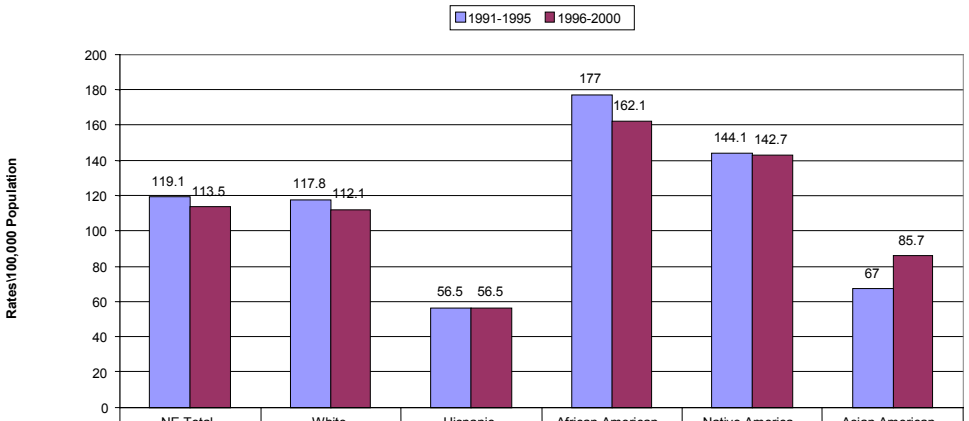
Source: Nebraska Health and Human Services System, Vital Statitistics

Figure 6
Cancer All Sites
Incidence Rates* For Nebraska Residents
by Race and Ethnic Group 1995-1999



*** Rates Age-adjusted per 100,000 population, 1970 U.S. Standard Population**
Source: Nebraska Health and Human Services, Cancer Registry 2000-2001

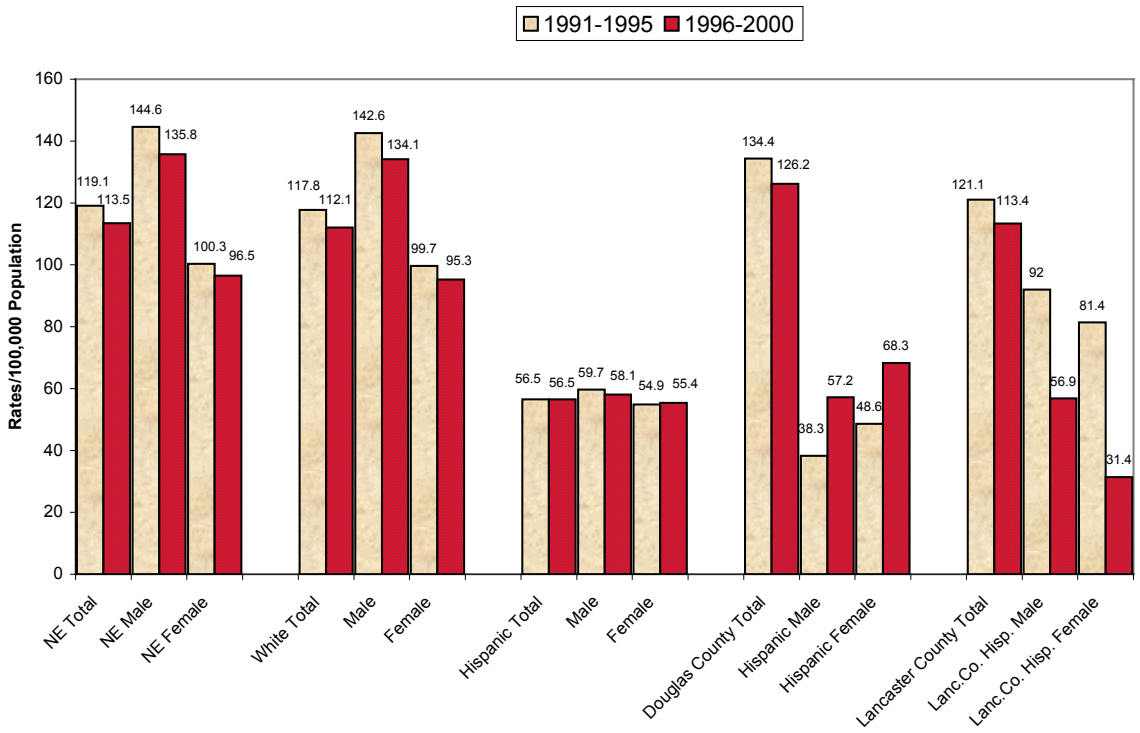
Figure 7
Cancer (All Sites)
Mortality Rates* for Nebraska,
by Race and Ethnicity, 1991-1995 vs. 1996-2000



	NE Total	White	Hispanic	African American	Native America	Asian American
1991-1995	119.1	117.8	56.5	177	144.1	67
1996-2000	113.5	112.1	56.5	162.1	142.7	85.7

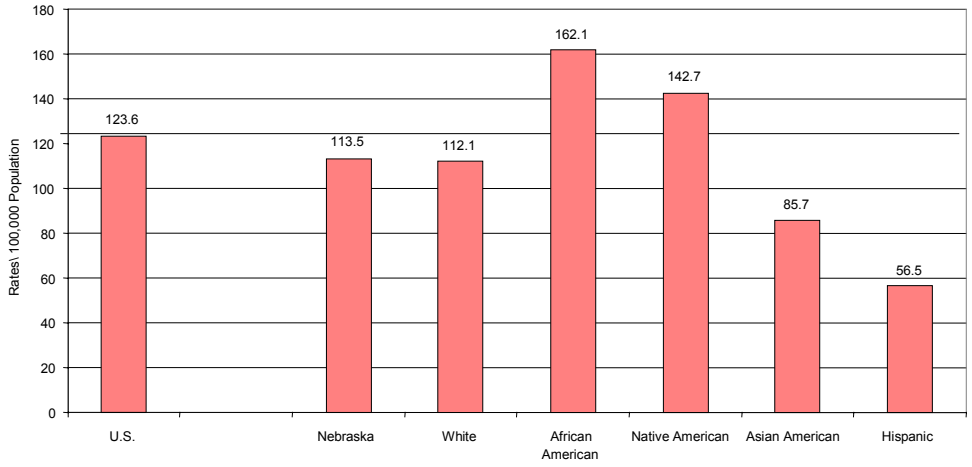
***Rates Age-adjusted to 1940 U.S. Standard Population**
Source: Nebraska Health and Human Services System, Vital Statistics

Figure 7A
Cancer Mortality Rates* (All Sites)
Nebraska, Douglas & Lancaster Counties
by Race/Ethnicity, and Gender (1991-1995 vs. 1996-2000)



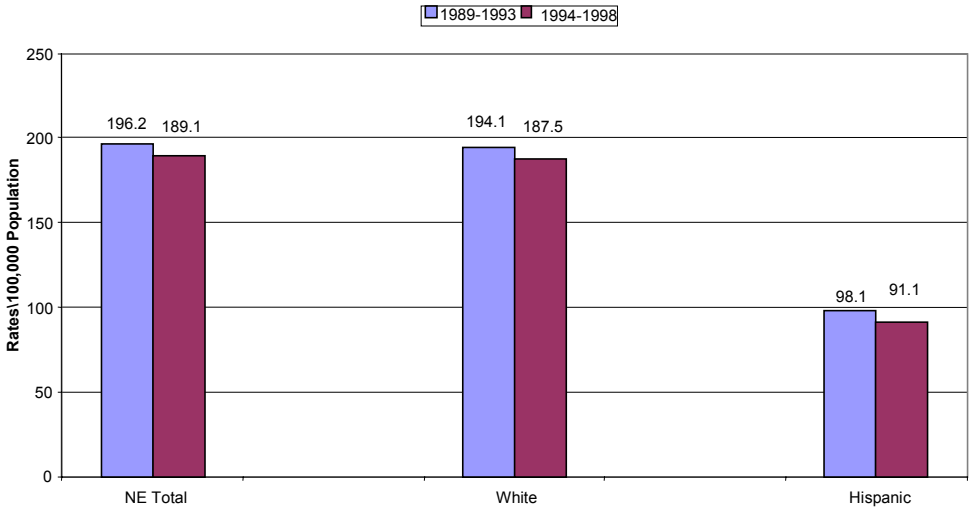
*Rates Age-adjusted per 100,000 Population to the 1940 U.S. Standard Population
Source: Nebraska Health and Human Services System, Vital Statistics

Figure 8
Cancer
Mortality Rates* for U.S. and Nebraska
by Race and Ethnicity, 1996- 2000



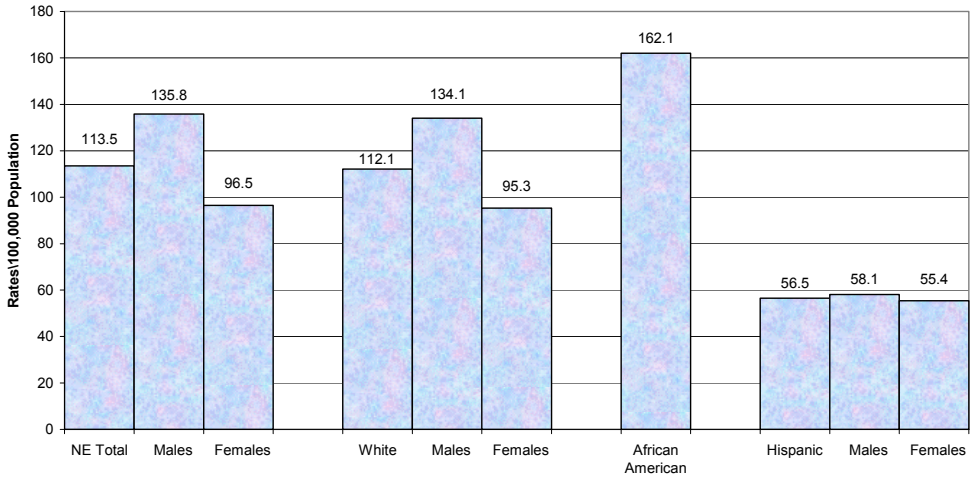
*Rates Age-adjusted to 1940 US Standard Population
Source: Nebraska Health and Human Services System and U.S. Vital Statistics

Figure 9
Cancer Mortality Rates*
by Race and HispanicOrigin 1989-1993 vs. 1994-1998



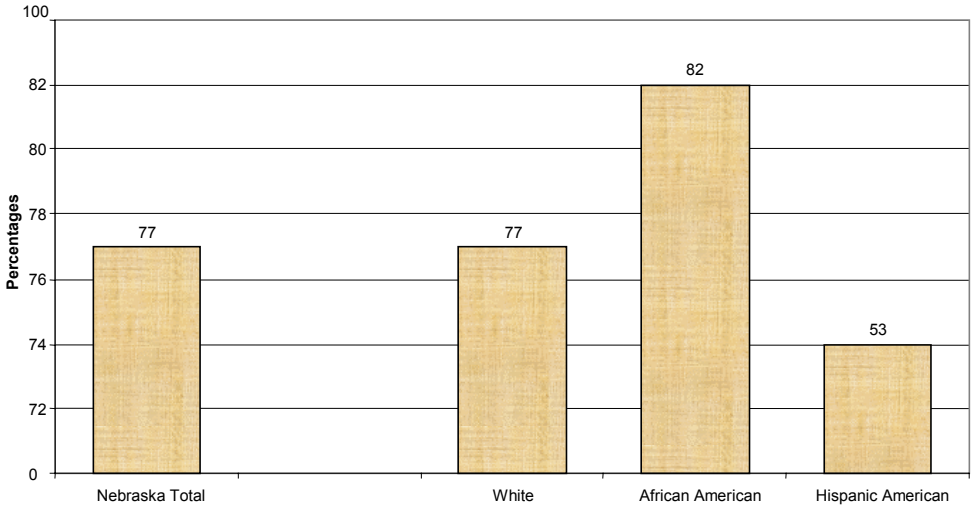
* Age-adjusted to U.S. 2000 Standard Population
Source: Nebraska Health and Human Services System, Vital Statistics

Figure 10
Cancer (All Sites)
Mortality Rates* for Nebraska
by Gender, Race and Ethnicity, 1996-2000



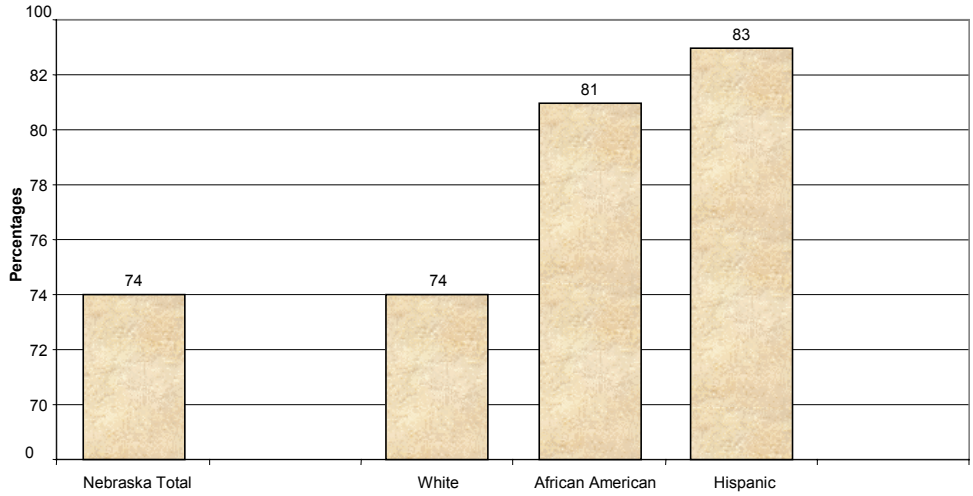
***Rates Age-adjusted to 1940 U.S. Standard Population**
Source: Nebraska Health and Human Services System Vital Statistics

Figure 11
Ever Had a Mammogram
Nebraska Women Aged 40 + (1994-1998)



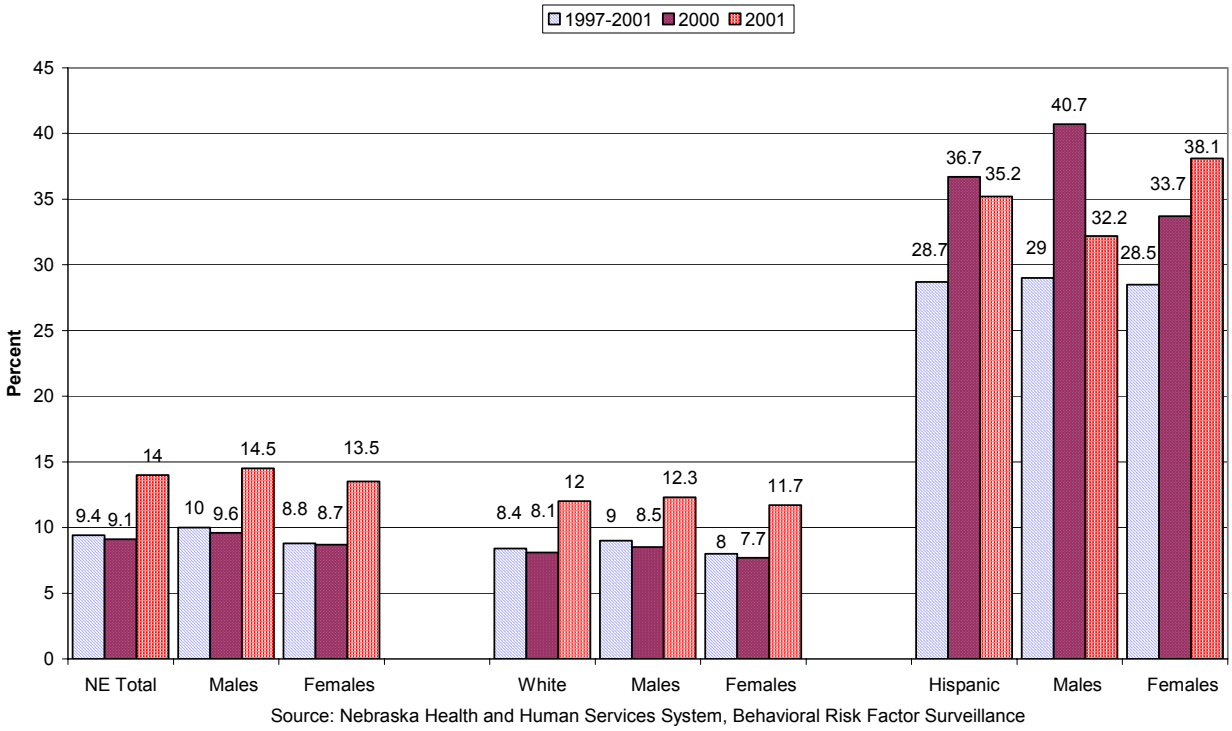
Source: Nebraska Health and Human Services System, Behaviorial Risk Factor Surveillance System (1994-1998, combined).

Figure 12
Had Pap Test in Past 2 Years
Nebraska Women Aged 18+ (1994-1998)



Source: Nebraska Health and Human Services System, Behavioral Risk Factor Surveillance System, (1994-1998 combined)

Figure 13
Percent of Nebraskans with No Health Insurance
Adults Ages 18+ (1997-2001, 2000 and 2001)



Source: Nebraska Health and Human Services System, Behavioral Risk Factor Surveillance